Textile World

MARCH, 1941

"We Speak for the South"

SEE PAGE 47

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1941

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1941

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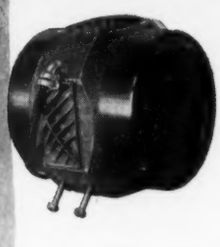
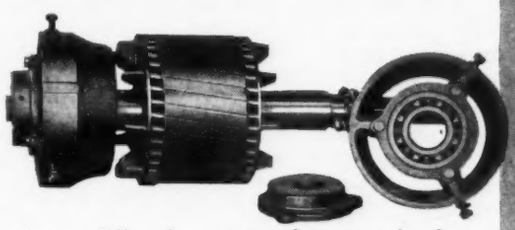
MONEY-SAVING FACTS ON QUICK-CLEAN MOTORS!

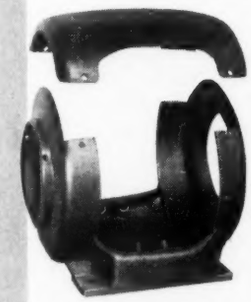
THEY BEAT LINT ...AND POWER BILLS, TOO!



NO LINT OR FLY CAN ADHERE to the Quick-Clean's smooth, hard stator surfaces — a big factor in making these motors lint-proof and fly-proof. All working parts are dust-sealed. The stator, rigidly supported on the motor base, is easily removable . . . interchangeable. Note how coils are completely shielded—another important Quick-Clean feature.



INDESTRUCTIBLE ROTOR is mounted on ball bearings in sealed cartridge units that keep oil in . . . keep dust out. The Quick-Clean Rotor is silver brazed . . . and is rigidly supported on the motor base. Like the stator, the rotor is also removable as a unit . . . and can be interchanged readily. These rotor features combine to give long life . . . lowest possible maintenance.



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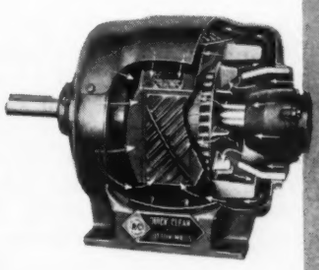

HERE'S THE QUICK-CLEAN PRINCIPLE! Dust-laden air drawn into motor is ejected at sides. Air passages are large and unobstructed . . . and all inside surfaces are glass-smooth, making it impossible for lint or dust to adhere. In Quick-Clean Motors you get full-measure construction throughout . . . extra-value performance that's bound to save you money!

A-1273

Find Out About Allis-Chalmers Quick-Clean Motors . . . and How They Solve Lint and Dust Problem in Hundreds of Textile Mills!

LINT, DUST and fly in textile mills were once the great obstacles to efficient motor operation. But that was before development of Allis-Chalmers Quick-Clean Motors.

Today—the threat of dust and lint clogging motors is gone forever!

Today — hundreds of up-to-date mill operators use these motors because they know they do a modern job for them . . . because they know Quick-Cleans have been tailor-made for their particular problems!

If you haven't already switched over your plant to Quick-Clean Motors . . . get the story about them at once! You'll be amazed at their smooth operation . . . their low cost for maintenance . . . their low power demand!

Read the facts in the panel . . . then get in touch with the engineer in the district office near you. Or write Allis-Chalmers, Milwaukee, for the complete money-saving story!

Over 90 Years of Engineering Superiority Work for You When You Specify Allis-Chalmers!

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The Disposition of Obsolete Machinery

Comments by Henry G. Lord

When a textile manufacturer makes up his mind to install new and up-to-date machinery, he has several alternatives in regard to the disposition of the old stuff.

Depending on its age and condition, he may decide to keep it as reserve equipment, if there is room without providing expensive additional space for new machinery. He may sell it, usually for a very low price, or he can scrap it. Few have enough heroism for the latter course.

I have been retained a number of times in past years to make appraisal of mills for taxation purposes or for liquidation and have frequently been surprised at the amount of old junk and worthless equipment. In many a mill the end of a room was cluttered up with old machinery, oftentimes stripped of many of its parts, taking up available space which might have been used for new equipment or for better arrangement and flow of work. It was depressing to see it around the plant. If there was too much of it, it was usually the cause of a liquidation.

When I read of the destruction of mills and factories in France, and particularly in Manchester, England, I wondered if it was wholly a calamity. I recall one or two mills in Manchester that I went through in 1919, which will be no loss to the cotton manufacturing industry if they have been demolished: narrow buildings, low stud, badly lighted; machines placed so closely together that there was hardly room to squeeze through the aisles and operating only at an occasional profit. On the other hand, of course, I saw some splendid mills, then and later, whose destruction would be a tragedy. If the Nazis have done a selective job and destroyed only those old-timers, if they were still in existence, I do not think much harm has been done except through temporary loss of employment. Nevertheless, I would not recommend bombing as the best method for getting rid of obsolete machinery.

On that same visit to Europe, I had a conference with about thirty French cotton manufacturers who came up to Paris to meet me and discuss the possibility of American textile machinery builders supplying the equipment necessary for the new mills that were being built to replace the destruction in Northern France. I had seen the ruins of some of those mills. There was sometimes enough left to give one a pretty good idea of their out-of-date construction and equipment; narrow buildings —usually 35 ft. wide—thick stone walls, poor lighting and very little automatic machinery. I pictured to myself the fine new mills that would be erected to take their place.

The French manufacturers knew little about American machinery and I came home full of enthusiasm that there was a big market for our machinery in France. So the Textile World published a Catalog of American Machinery and Supplies, in the French langauge, under the direction of Douglas Woolf who had recently returned from aviation service abroad. This was distributed to all textile manufacturers in France, Italy and Spain and I think a number of American machine builders established agencies in Europe, but the amount of American machinery sent to France was far less than expected, principally, I think, because the French mills were rebuilt almost exactly along the lines of the old ones and with much of the same equipment of English and French machinery.

Back in the 70's, when financiers and economists were discussing ways and means for this country to get back on the gold standard and resume specie payment, Salmon P. Chase, then Secretary of the Treasury, said "The way to resumption is to resume." I would suggest that the way to get rid of obsolete machinery *is to get rid of it!* and without waiting for bombardment!

HENRY G. LORD, *founder of Textile World and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.*

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FRONT COVER

A group of representative spokesmen (and women), who share in the "We Speak for the South" section, appear on the cover. A key to their identities is given on page 47.

IN THE NEXT

"Knit Goods in National Defense" will be the theme of the April issue of TEXTILE WORLD, which will be published in time for distribution at the Knitting Arts Exhibition in Philadelphia, April 21–24. Among the phases of this subject which will be covered are: Hosiery in National Defense; Underwear in National Defense; Outerwear in National Defense; Manufacturing Details of Knit Goods for the Army; Dyeing Cotton Socks for the Army. In addition, this special section will include other knitting features of practical value to the man in the mill.

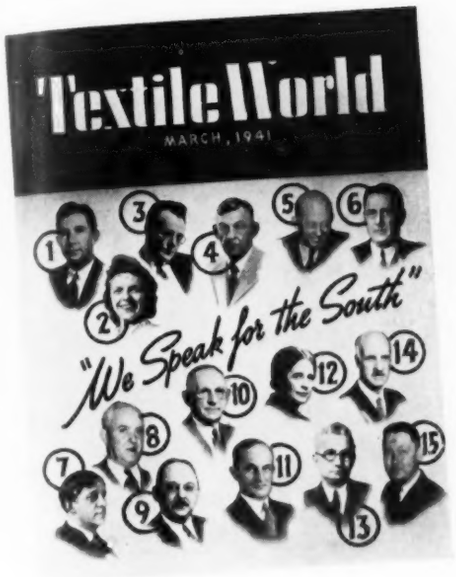
This is another "Three-in-One" issue. It will include, in addition to the special section just mentioned, TEXTILE WORLD's Guide to Exhibits at the Knitting Arts Exhibition, and the regular April issue of TEXTILE WORLD, with its balanced coverage of all branches of the textile industry.

* * *

Index to the 1940 issues of TEXTILE WORLD is now available. The editors will be glad to send a copy of this index to any reader free on request.

Textile World

MARCH, 1941 DOUGLAS G. WOOLF, Editor



1. Perrin Collier, a research man; 2. Martha Pittenger, a textile-mill worker; 3. Jonathan Daniels, a newspaper editor; 4. J. E. Sirrine, an engineer; 5. Frank Lockman, a mill superintendent; 6. F. W. Symmes, a textile manufacturer; 7. Dr. Karl Reiland, a preacher; 8. W. M. McLaurine, a trade association executive; 9. Oscar Johnston, a raw cotton man; 10. W. G. Sirrine, president of S.T.E. 11. Thomas Quigley, a director of vocational education; 12. Mrs. A. D. Oliphant, a consumer; 13. G. Heyward Mahon, a retailer; 14. Thomas Nelson, a textile school dean; 15. Wallace Splawn, a textile-mill overseer

"We Speak for the South"

IN THE FOLLOWING PAGES, the "we" is not the editorial "we." Men and women in all walks of life *in* the South speak *for* the South: a raw-cotton man, a textile manufacturer, a mill superintendent, an overseer, a mill worker, a textile-school dean, a newspaper editor, a preacher, a retailer, a consumer, and many others. On the last page of this special section, the president of the Southern Textile Exposition ties the section into the event for which this issue has been prepared: the biennial textile show which will be held, this year, at Greenville, S. C., March 31 to April 4. Starting on page 141, appears TEXTILE WORLD's Guide to Exhibits.

In the following pages, the spokesmen for the South tell, by invitation, (1) what the textile industry means to the South, and (2) what is needed to make that industry mean still more to the South. They were selected as representative types in the functions they represent.

The editorial "we" is confined to this page. This writer has a personal reason for adding his statement to those of the guest-editors. He will mark this spring his 25th year of connection with TEXTILE WORLD (in this, the 73rd year of its heritage), and consequently of a quarter-century of association with the southern industry, as an important part of American textile manufacture.

He recalls that, as a result of his early visits to the South, he wrote these words in these columns:

"Cotton manufacturing in the South is more than an industry; it is a force which is difficult to label but which may be described as a great socializing factor." Everything he has learned in the intervening years has strengthened that conviction.

Again, in those early days, he wrote:

"Today the production of better men and women is as much on the minds of southern mill-men as is the production of better goods." That fact also stands today incontrovertible, despite the attacks from pressure groups and from others ignorant of the background of the southern industry.

One more quotation from our early impressions:

"The last 25 years have seen astounding changes in the southern industry. Great organizations have replaced small mills; model villages with all the comforts of city life have taken the place of rude settlements; a mill citizenship composed of physically and mentally alert men and women has succeeded a race of poverty-stricken illiterates, remnants of the War Between the States. It may well be that these developments, great as they were, will be dwarfed into insignificance by the progress of the next 25 years." That prediction has come to pass, as any unbiased visitor to the South today will testify.

And what about the next 25 years? They will be full of problems, but none of them will be beyond solution. The progress of the future is assured if the industry continues as a great socializing force, with quick and willing adjustment to new conditions and new facts.

We thrill to the vision of the next quarter-century in southern textile manufacture.

Douglas G. Woolf

"We Speak for the South"

"employment to more than 10,000,000 human beings"

A Raw Cotton Man Speaks

Cotton is produced in the United States by approximately 2,500,000 farm families dependent in the main upon revenue derived from cotton and cottonseed for a livelihood. The commodity is produced in greater or less quantities in 18 of the 48 States of the Union. Production, harvesting, marketing, transporting, and initial processing of cotton gives employment to more than 10,000,000 human beings. The processing of raw cotton, essential to its conversion into yarn, requires the services of another 500,000 workers.

The raw cotton industry is composed of six interdependent interest: namely producers, ginners, warehousemen, cotton merchants or shippers; cotton-seed crushers, and cotton spinners.

The quantity of cotton used annually for textile purposes exceeds the quantity of all other fibers, natural or artificial, combined. To illustrate what the textile industry means to the cotton belt, it is only necessary to point to the fact that during the month of Jan. 1941, mills situated within the cotton belt consumed an aggregate of 716,990 bales of cotton out of a total of 843,274 bales consumed by the mills in the entire United States. Millions of dollars of capital are invested in approximately 1,000 textile mills located within the cotton belt, and millions of dollars in taxes are paid yearly by the textile industry.

In the past too little effort has been made to coordinate the activities of those engaged in the several branches of the raw cotton industry. It is important that each branch of the industry understand the problems and the needs of the other five branches of the industry.

It is important, for example, that spinners and crushers realize keenly the problems, social and economic, of the producers; it is of equal importance that the three handler groups, ginners, warehousemen and shippers, merchants or distributors, understand the problems of the producer on the one hand and the spinner and the crusher on the other.

It is essential that the producer be enabled to bring into existence an adequate supply of raw material, and be able to market the product at a price and under conditions that will give him an equitable share of the national income. Unless this can be done, it is not reasonable to assume that the farm families of America will continue to produce cotton under conditions which deny to them the privilege of enjoying our so-called "American standard of living." On the other hand, the producer must understand that for him to receive an adequate cash return, each of the remaining five branches of the industry must be permitted to perform its function under fair conditions.

Each of the six designated raw-cotton interests will progress, develop and improve proportionately as the persons engaged in the various branches of the industry develop a better understanding and as they undertake to coordinate their activities and to cooperate to promote the industry as a whole.

OSCAR JOHNSTON, ***president, National Cotton Council of America, Memphis, Tenn.***

A Textile Manufacturer Speaks . . .

Statisticians inform us that the textile industry of the South is one of the two greatest employers of labor in the South. It is the greatest consumer of American cotton in the world. These two statements imply stronger than words can tell the value of the cotton-textile industry to the South.

It is the duty of industry, regardless of political beliefs, to cooperate with the Government for the duration of the present emergency. And I want to say that our industry today is cooperating in every way possible—even though this cooperation often entails real sacrifice. Management policies have been cheerfully revised and production costs run up out of proportion to profits to help the defense program. Industry is doing its part at present and will continue to do so.

But some day conditions will return to normal, and if the textile industry is to progress beyond that point the most important factor entering into this progress is for the Government to adopt a reasonable attitude toward management and realize emergency conditions have passed. Industry expects a goodly number of headaches from uncertainties and doubtful factors in the march of progress, but it needs and must have eventually a release and quiet hour away from disturbing influences—or the headaches will change into a bad case of "jitters." On the other hand, industry must not blame all of its troubles on Government uncertainties as many of its worries, such as reckless overproduction, are from within. Plans now should be made to handle internal problems when conditions return to normal.

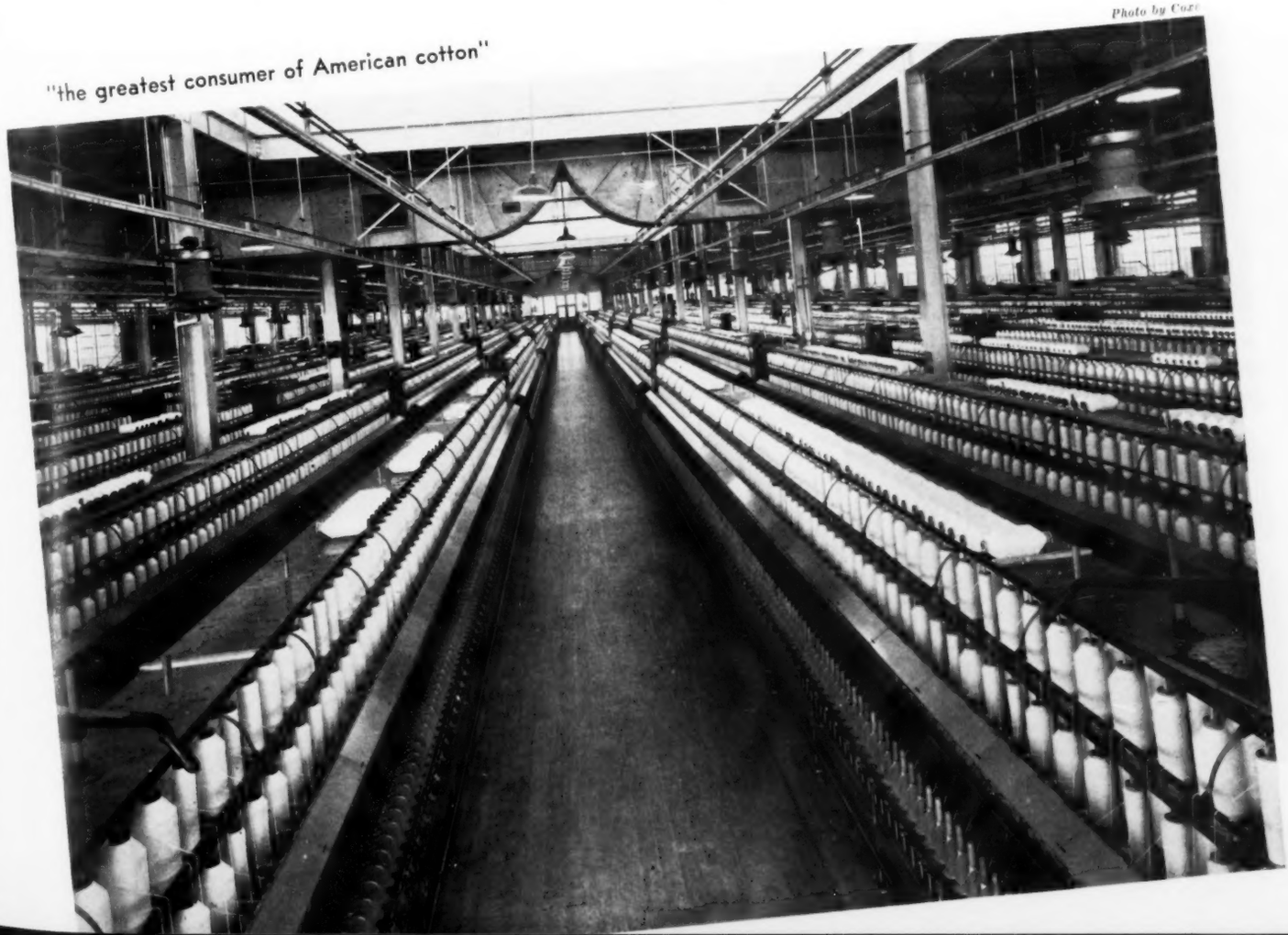
Another factor that I would mention as a contribution to progress for the cotton-textile industry and the South is better merchandising methods. The industry is too production-minded and not sufficiently profit-minded. The market is too market-minded and not sufficiently profit-minded for the mills. There is too great a gap between production and marketing. The entire marketing structure needs to be reworked, not with the idea of discarding everything but with the idea of unifying production and marketing.

It is my honest opinion that we have the principles and parties sufficient in our marketing structure to make it efficient. My idea in this statement is that we should make a careful study of the principles and organize them into a cooperative and coordinated relationship with production. I am sure that the marketing structure suffers some bad influences from the producers also. These influences need to be brought into the open glare of intelligent study and either remedied or eradicated. Market and production are complementary functions and each must do its job well and consider its relationship to the other.

F. W. SYMMES, ***president and treasurer, Union-Buffalo Mills Co., Inc., Greenville, S. C., and president, A.C.M.A.***

Photo by Carr

"the greatest consumer of American cotton"



"We Speak for the South"

A Superintendent Speaks

About half way between Union and Chester, S. C., on the banks of the Broad River, nestles the thriving town of Lockhart. I want to tell you what the town used to be and what the textile indusry has made it today. From the time God made this section of the country up until the year 1895, there were very few inhabitants living around here. There was a small grist mill, and locks and a dam which permitted farmers to ship their cotton by water to Columbia, S. C. This was a very desirable place for bull frogs, muskrats, opossums, coons, snakes, rabbits, and birds of every type. In this low, swampy, thinly-inhabited place, some business men decided in 1893 to errect a 25,000-spindle cotton mill.

The mill's first big job 45 years ago was to bring in raw country people and train them to operate machines. In those days a spinner operated six sides at a rate of 9c. per side for 72 hr. per week, as compared with 14 sides at 19½ c. for 40 hr. per week today. I remember very well when I went to work at 6:00 a.m., had ¾ hr. for dinner at noon and stopped at 7:00 p.m., working 72 hr. per week. I wanted a job so badly that I went to work for nothing, worked one month learning to sweep, and at the beginning of the second month they paid me 10c. per day. You only got your money once a month. I got 60c. for 72 hr. of work. A boy today gets $13 for 40 hr. of the same kind of work, but 10c. a day was real money for a small child in those days.

I remember the house we lived in was a little three-room house, boxed up like a cow stall, and the little side room was where I slept with as many more as could get in. From the top of that outside door to the bottom was a strip about three inches wide split off. I don't remember that door ever being fixed, but I do remember that I could feel cold air blowing in there at night, and I often wondered why my father never had it fixed. Since growing up I have come to the conclusion that he thought it healthy and was afraid we would get sick if it was stopped up. Gee, but those were good old days!

Today, Lockhart is a nice village of 2,000 or more people who seem to be about as happy as any group of working people you will find anywhere. They have good streets instead of the old muddy, rutty roads, nice houses, hot and cold running water, bath rooms, electric ice boxes, radios and electric irons. Many of the people have brooders and incubators for poultry, flower and vegetable gardens, fine milk cows, and all kinds of sporting and pet dogs. There is a good school and plenty of recreational facilities. I personally believe that Lockhart has sent out more college graduates than any village of its size in the State.

The textile industry has advanced greatly in recent years, mostly from improvements in machinery which have made work easier and better. But in the future, the human element probably will be far more important than machinery, and it is up to management to plan its policies accordingly. In turn, the employee must be honest with the company and try to make every penny for it he can, at the same time saving all he can out of his wages for leaner times.

FRANK D. LOCKMAN, ***superintendent, Monarch Mills, Lockhart, S. C., and president, Southern Textile Association***

"it is up to management to plan"

Photo by Coze

An Overseer Speaks . . .

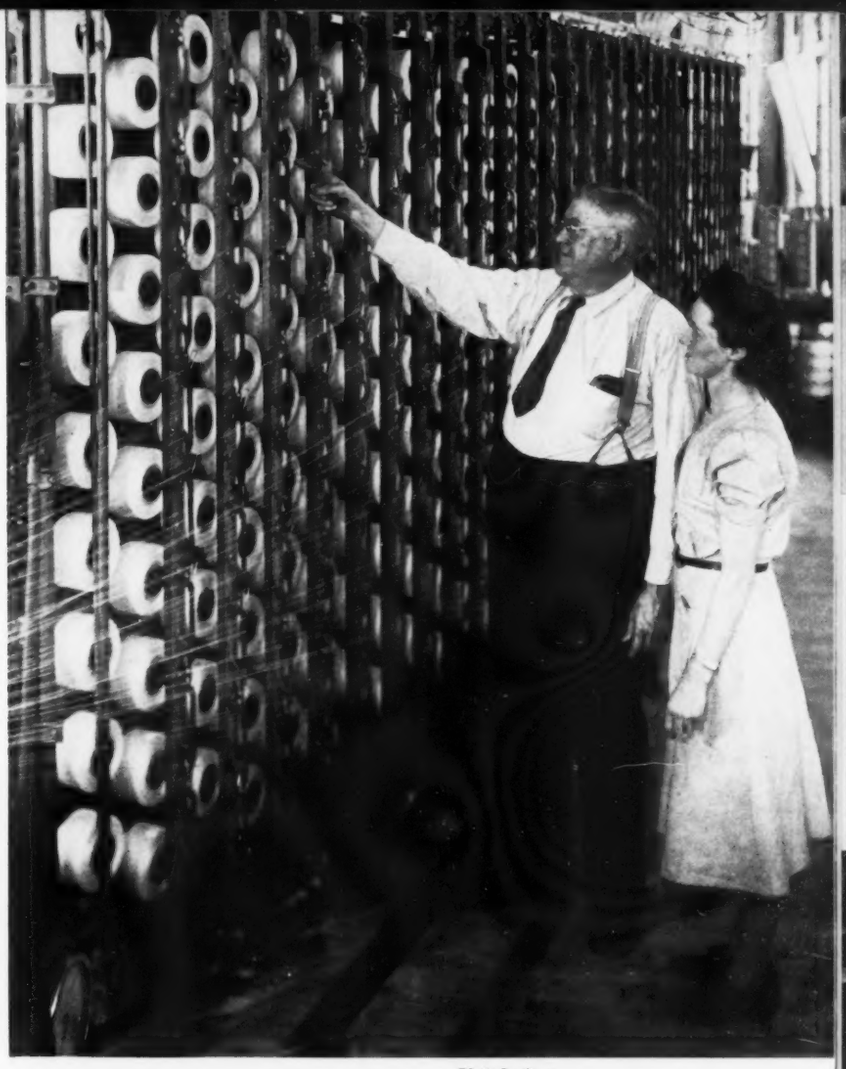


Photo by Coxe

"and build in them confidence"

It is necessary only to walk down the sunny streets of any southern mill village and look into the faces of the inhabitants, at their good clothes and neat houses, to know what the textile industry means to the South. It has come a long way since the days of William Gregg, Michael Schenck, Abraham Warlick, Joe Battle and other pioneers of the early 1800's.

A few years ago it was common practice to make an overseer out of the man with the loudest voice, the keenest whistle and the greatest amount of drive. His job was to get production out of the workers by any method he saw fit. But just as the function of the mill has changed from that of making great profits for a few stockholders to that of providing reasonable dividends for the stockholders and steady work at good wages for the workers, so has the job of an overseer changed from that of a driver of men to a leader of men. His importance to the mill is bound to increase in coming years because of his proximity to the employees.

The overseer has always had his share of problems, so speaking as an overseer and of his vision of the future, there are several problems which must be solved if the industry is to continue to progress. Some of these we, as overseers, can solve ourselves, but there are others over which we have no control. For example, typical of the latter problems, is the growing shortage of skilled labor which is likely to become increasingly acute as the defense program progresses. The only possible means of relieving this shortage which we overseers can see is some modification of the wage-hours law which would permit us to train additional workers without the complications of the learner provisions of the law.

The overseer can contribute to the further progress of the industry by first taking stock of himself and continuing to study and grow on the job. Knowledge of his own company and its policies are essential. At all times he must deal honestly and fairly with the employees and build in them confidence in himself and in the company. When he secures this confidence it is surprising how much easier it is to operate more efficiently and with less friction. Howard J. Montgomery says that it is better to have four men working "with" the company than forty men working "for" the company.

The overseer should make a point to learn as much as possible about the finished product of his company, what it is to be used for, etc. At the same time, he should know about the stock from which it is made and the cost of manufacturing the complete product. This would assist him in explaining to the workers the cost to the mill of defective work at the various processes. He must be able to convince his workers that it is the plant as a whole that should be considered and not just one department. Outside the mill, the overseer should take an interest in trade association activities and in what is going on elsewhere. If he does even a few of these things his efforts are bound to further the progress of the industry and in turn the progress of the South.

W. W. SPLAWN, ***overseer of spinning, Kendall Co.,, Pelzer, S. C.***

"We Speak for the South"

A Worker Speaks . . . .

I am a textile worker in an Alabama cotton mill, and I am proud of the fact. My job is battery filling, which is important from the standpoint of efficient, speedy operation, as the full quill must be put in the battery properly so it will constantly supply the shuttle with yarn in its thousands of daily trips across the loom. This is a humble job in comparison with some textile operations, but I enjoy it. Battery filling is not hard work; it gives me steady employment and supplies my dependents with the necessities of life as well as the pleasures.

We live in a four-room house and enjoy even the things that a banker can afford. My earning allows me the clothing to dress so that I can associate with the best people. I work 8 hr. a day for five days, and I have ample time to enjoy the recreation the mill offers its employees, such as the swimming pool, the community house, baseball and basketball games. I am also a news reporter for my mill and have spare time to write the news of the entire mill.

Regardless of what radical magazines say about the cotton mills and their people, the day has passed when they were nothing more than sweat shops where people labor under harsh management and unsanitary conditions. My standard of living is far above that of the people who live on rented farms and of those who live in crowded quarters of industrial sections of large cities. The textile mills continually are marching forward in giving their employees steady work, pleasant living conditions and a safe place to work. Our mill in particular has an outstanding record of no lost-time accidents. Today our mill is aiding many employees in buying their own homes on plots of ground ranging in size from 5 to 25 acres each.

If this industry continues its present high level of operation, good wages and human interest in its employees, it will—without fail—make a better South in which to live. All I want is a continued, steady annual income, the pleasant working conditions I now have, and maintenance of the safety record we now hold. In return, I am willing to give my best workmanship, my sincere efforts and my loyalty to my employer.

MARTHA PITTENGER, ***battery filler, Avondale Mills, Alexander City, Ala.***

"I am willing to give my best workmanship"

"We Speak for the South"

An Industrial Relations Manager Speaks . . .

Reduction of costs has been a constant problem to the textile industry. Careful study has centered on obsolete machinery, out-moded styles, losses of time and motion as sources of cost increase which could be corrected. Analysis has pointed also to a less easily remedied source of increased costs—costs of life and time and money caused by misunderstandings between managements and employees.

It is unfortunate that there has been a dearth of information for laymen on management's past efforts in industrial relations because many textile executives constantly tried to prevent causes of dissatisfaction and improve living conditions of employees, according to the standards of their times. No one would recognize more quickly than these brilliant textile minds of the past that the present has brought with it changes.

Today each mill needs an intelligent industrial relations policy and an interpretation of that policy that is clear to everyone from the hour hand to the president. Such a plan will not be an immediate cure-all for misunderstandings. It will not settle all your labor problems. But such a plan will not be as intangible in its results as some would have you think. Centralized employment, a chance for the worker to tell "his side," a written record of the life of the employee with the company, a written record of the life of the company with the employee—these and other basic needs will bring very tangible monetary savings. Intelligent industrial relations will decrease costs through increased production, less costly turnover, less opportunity for labor cases, less chance for technical violations of the wage-and-hour law, abler presentation of facts in unemployment compensation cases, and in other ways too numerous to recite.

An intelligent well-channeled system should bring someday a so-called "intangible" result that will be infinitely valuable: planned industrial relations should establish for both management and employees faith in each other. It is a basic principle of human nature, which no cotton mill can change, that supervisors want to know how to give their best and get the best from employees, and that employees will give them fullest cooperation if they have confidence in their leaders. Today it is a "first thing first" for cotton-mill executives to supply and head a planned program that will educate all of us in each of our organizations to greater faith in each other.

Sound industrial relations can be established in any plant; the size is immaterial. A suggestion is that a chief executive who sees this grave necessity take the time out to visit those mills with good personnel policies, and then evolve a workable plan for his mill. There is a plan that will win the confidence of your supervisory force and your employees, and you have an immediate responsibility to define it and set it in motion.

ANNETTE DUCHEIN, ***manager of industrial relations, Spartan, Startex, and Gaffney Mills, Spartanburg, S. C.***

"a written record of the life of the employee with the company"

Photo by Coxe

"We Speak for the South"

A Trade Association Executive Speaks . . .

The textile industry means more to the South than most people realize. It is the oldest industry in the South, the greatest consumer of the cotton farmer's product, the greatest consumer of labor, the steadiest operator of its plants, furnishes the steadiest and most dependable income, is the source for the greatest block of State and National revenue, and many other valuable assets.

The fact of its long tradition has caused it to lose its novelty and sense of public appreciation by the mass. Other new industries make their advent with a flare of parades and publicity but the ever-dependable textile industry wends its way steadily and unsensationally onward, making its great contributions in spite of its lack of public appreciation and the many derisive jibes hurled at it.

The textile industry is virile and progressive. The South now leads the nation in the fact that 80% of the crop domestically consumed is used in the South.

In this scientific age the textile industry must have better research facilities. Today it has practically none. Its improvements have been the by-products of research in its related fields. In this day of substitutes and competitions, the industry must set up its own agency for research.

While the art or business of merchandising has improved some during the last decade, there is room for much more improvement. The integrated mills have shown what can be done but there will always be a need for commission houses and this is the place where improvement in merchandising can be materially achieved. The integrated mills can also improve, but they may attribute their lack of further progress to the archaisms of the commission house.

Modernization must not be stopped. The present demand requires it and the post-war days will demand all of the mechanical equipment possible. This is an urgent program of progress.

Industrial and public relations must be studied and practiced faithfully and effectively during the coming days. In times of nervous excitement and military demands people become critical and fault-finding and distrustful. As the days come we must "wash our windows" and put glass in our doorways so that the public can see and understand our aims and ideals.

Perhaps one abstract principle should be inserted now. Employers and employees must be tolerant and patient. Selfishness and sensitiveness must be eliminated from the program. A great unity must exist in order that the principles underlying the American way of life shall not be destroyed.

W. M. McLAURINE, ***secretary and treasurer, American Cotton Manufacturers Association, Charlotte, N. C.***

"a great unity must exist"

Photo by Schutz

A Newspaper Editor Speaks . . .

"a better understanding by the South of its industry"

I don't own a share of stock in a textile mill. I never had a job in one. But I went to school with children from a village of rain-browned houses about a struggling little mill. Since then I've been in better villages and worse ones, by the brick-cliff walls of huge plants, by their steel fences, by pretty girls with lint on their permanents, and the full fields of workers' parked cars. I have had some things to say. I think there were and are some important things to say, not all complimentary.

But men do not understand the South who do not understand also that the faults the mills congregated about them generally represented still an escape from the harder, poorer land. Little men from little worn farms stood in line to get the jobs in the first mills. When they got the jobs they did not get heaven. Some of the men they worked for had been little men, too, and had the tough vices which go with tough virtues. They needed the chiding which came too slowly about low wages, child labor, coercion, the congregation of workers under arrogance and within the surrounding community's contempt. Their successors also now need credit for the improved villages and the better conditions, the more wealth in the South.

Unfortunately, it seems to me sometimes those leaders of the textile industry who are the least progressive make the most noise. Sometimes quieter, abler managers have let men with nineteenth-century minds seem to speak for the twentieth-century industry. Enlightened men have let themselves be tagged by their own tag-alongs even more than by critical politicians or radicals.

The textile industry and the South need together a new activity by—and a new trust of—industrial brains in social growth. That means a better understanding by the South of its industry and a greater, less economically limited participation by leaders of the textile industry in the growth of the whole South.

Foreign markets may be disappearing, but there are people still making their clothes out of fertilizer bags not far from the largest textile mills in the South. There is a big job for the men of the textile industry outside as well as inside the mills, as long as such people in poverty remain. Indeed, nothing seems clearer now than that the future of the textile industry and the South around it is the same.

JONATHAN DANIELS, *editor*, The News and Observer, *Raleigh, N. C.*

An Engineer Speaks . . .

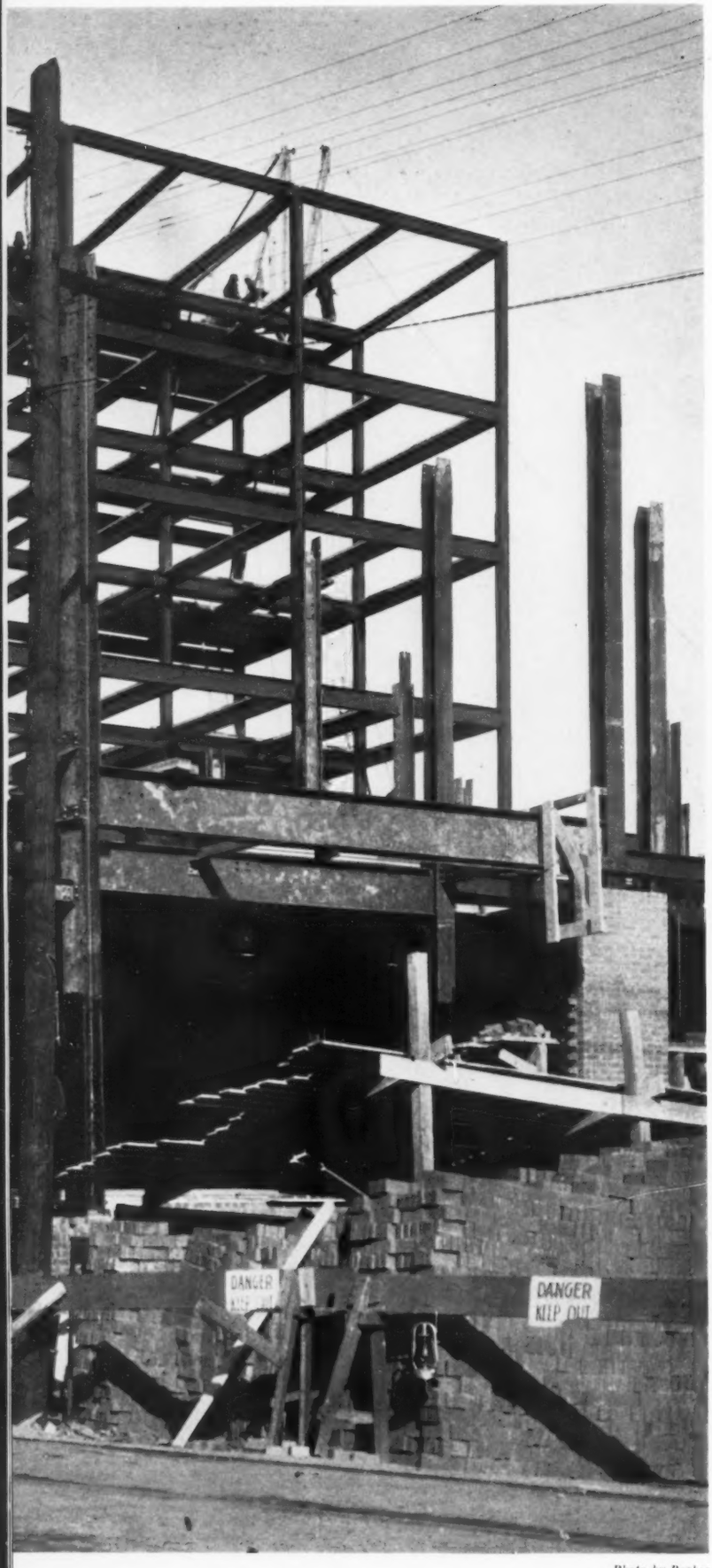


Photo by Barber

Two problems confront the textile industry that must be carefully considered. The South, during the last year, has lost a great part of its raw-cotton exports as a result of the European War, and this is in addition to the market losses that have been suffered by reason of the increase in the cotton crop of other countries. The result is that our domestic industry must absorb a larger portion of the crop in the coming years.

Just at present, a large part of our consumption is going to defense uses but after the defense program is over, cotton must face competition both from other countries and from other fibers and materials, and there must finally be a balance between production and consumption. Government loans may present a temporary relief to the farmer but they do not solve the problem and, in fact, only postpone the inevitable reckoning. There have been many plans suggested for the stimulation of new uses for our surplus cotton. Many of them are constructive and offer some promise of real benefit. Better styling and merchandising will increase the use of cotton dress goods, but to find new uses for large quantities of raw cotton it will be necessary to develop new industrial uses where poundage consumed is large. For example, if fire-proofed properly, there is no reason why an excellent insulation material could not be made from cotton, and many other uses no doubt could be found. All this will take time and considerable research.

The other problem is the question of holding our own in manufactured cotton products after the war, when every country in Europe will be frantically seeking new markets—and will have the advantage of low labor cost, longer hours, and a generally friendly support from their various Governments.

We cannot meet the wages and hours, and our only hope lies in the use of better tools and methods. Many mills cannot afford to spend a large amount of money at one time to completely revamp their plants, but every mill can spend a little on this work each year. Unless a mill is practically new, it should *use* its depreciation funds for new equipment and not pay it out in dividends; otherwise, plant exhaustion will result and no profits will be available for dividends or any other purpose. The average textile mill is making a fair profit today but what the situation will be after the War no one can tell; it should be remembered that every period of prosperity is succeeded by one of adversity. The industry must, therefore, set its house in order if it expects to survive the next period of narrow manufacturing margins and intense competition.

J. E. SIRRINE, ***president, J. E. Sirrine & Co., engineers, Greenville, S. C.***

"the industry must set its house in order"

A Research Man Speaks . . .

To say that the textile industry is of vital importance to the South is quite true, but this statement lacks the forcefulness to which it is entitled. To drive home the importance of such a statement, it is necessary to amplify it somewhat.

From published figures, we find that in the year 1937 the value of all manufactured products in the South was $11,555,000,000, whereas the value of all the products manufactured by the textile industry in the South was $1,790,830,436. This shows us that approximately 16% of the total value of all goods manufactured in the South was produced by the textile industry. In the textile industry I have included manufacturers of bags (other than paper), cordage, twine and jute goods, cotton goods, knitted goods, rayon goods, woolen goods, and dyers and finishers of yarns and fabrics. Of this group, the manufacturers of cotton goods alone produced goods at a value of $931,686,877, which is 73% of the value of the cotton-textile products manufactured in the entire country.

Wages paid for all types of manufacture in the South amounted to $1,565,545,722, while wages paid by the textile industry (including clothing) amounted to $413,226,604, or approximately 26% of all wages paid by all manufacturing plants in the South. This 26%, incidentally, is approximately 61% of the value added by manufacture.

The amount of money spent by all manufacturers for material, fuel, power, and other similar items was $7,230,455,903, while the amount spent by the textile industry for the same items was $1,011,628,018, or approximately 14% of the total amount spent for these expense items.

Other comparisons could be made, but these three should impress you with the value of the textile industry to the South from an economic viewpoint. What then shall we do to make the industry and the South progress still further?

Progress made by individual textile corporations or companies means progress for the textile industry; and progress for the textile industry means progress for the South. Of course, it is highly important that extreme care be made in the selection and training of the personnel, that you have proper maintenance of equipment and property, that you keep modernization programs before you, and that the health and happiness of employees be safeguarded with proper facilities. But we have learned from such industries as the chemical industry, the electrical industry and the automotive industry that their progress has come about largely through research. One of the large electrical companies has said that "the price of progress is the cost of research."

The textile industry has realized only in the last few years the value and the necessity of research, and through this channel have come new ideas, new products and new processes. Due primarily to research, we have recently been able to make certain products from cotton that were originally made from the more expensive fibers, such as silk and linen. Research is helping to remove our dependence on these foreign fibers and is opening new markets for cotton products.

Photo by Coze

"the price of progress is the cost of research"

Evidence of increased interest in research is shown by the number of research laboratories being established by individual textile corporations, as well as by the research laboratories being established by the Federal Government. I am convinced that through an intelligent research program diligently pursued, we can bring about further progress to the textile industry, and thereby to the South.

P. N. COLLIER, ***vice-president and director of research, Callaway Mills, LaGrange, Ga.***

"We Speak for the South"

A Textile School Dean Speaks . . .

"graduated from these schools are hundreds of young men"

Photo by Coxe shows Textile Building at Clemson (S. C.) College

Since the World War the textile industry has experienced an unusual growth in the South. The advantages gained by abundant hydro-electric power, native labor, proximity to raw material and favorable climate has made this section one of the great textile-manufacturing centers in the world.

A few years ago only a small part of the production of the South consisted of fancy fabrics, but at the present time not only fancy goods are being made, but a considerable diversification of products.

Further progress will be had by developing the woolen and worsted industry.

Another important phase is the development of more technically trained men. Men of vision looking into the future saw that if the textile industry was to attain a high standard it would be necessary to organize schools "for the purpose of instruction in the theory and practical art of textile and kindred industry."

Several textile schools have been established throughout the South; in North Carolina, South Carolina, Georgia, Alabama and Texas. Graduated from these schools are hundreds of young men trained with a broad general knowledge of the science and practice of textile manufacturing, together with the fundamental principles of economics, business, social and physical sciences. They will help further to develop progress of textile manufacturing in the South.

THOMAS NELSON, ***dean of textile school, North Carolina State College, Raleigh, N. C.***

A Power Company Executive Speaks . . .

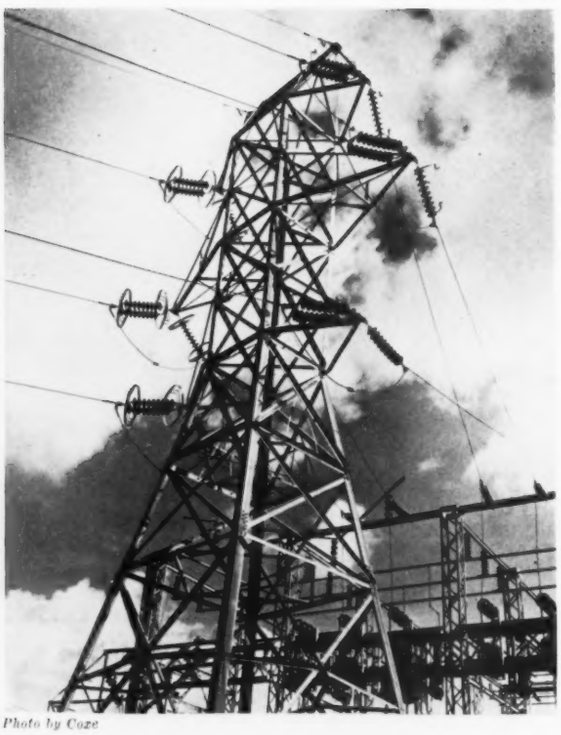


Photo by Coxe

"it is to spread over a vast area"

It is difficult to appraise the value of the textile industry to the South. It is spread over a vast area from Virginia to New Orleans and almost from the Atlantic Ocean to the Mississippi. It provides vast employment for the people of these southern States, both directly and indirectly. It has been responsible for providing many other industries, such as those which manufacture and sell supplies and those which deal in and process waste products. It has added vastly to our banking resources and has added millions of dollars to the taxable wealth.

At a time when agriculture has been beset with many difficulties, the textile industry has been a life-saver to many communities. Following in the wake of the spinning and weaving mills have come knitting mills and garment factories, using the products of these primary mills; and while this business is yet in its infancy a great increase will probably develop.

It is an indisputable fact that the textile industry, through its segregation over such a wide area and consuming largely the products produced in the area, has been a logical and indispensable aid to development of southern resources. It is safe to say that the future developments of the textile and related industries in the South will continue and the present-day development will look small by comparison.

NORMAN COCKE, ***vice-president, Duke Power Co., Charlotte, N. C.***

A Preacher Speaks . . .

The new Gospel of industry is cooperation between the employer and the employee with an understanding sympathy. Competition is so great today and the changes in industrial fortunes are so rapid that the employer sees no primrose path ahead of him. His chief hope for future progress is a balanced mutual relation between industry and the individual worker.

In recent years many mills have made exceptional progress in improving the physical welfare of the workers through agencies designed to assist in cases of illness, accident and death. Industry also has made great strides in recent years toward encouraging education of the younger people. But, if industry is to function smoothy in the future, it has got to go a step beyond physical welfare and formal education, and encourage the people to utilize their new leisure time constructively.

We have all heard often enough that Satan finds mischief for idle hands to do; but we have not yet learned that several devils find ignorant heads more congenial to their schemes. Just how far the mill should go in directing the employee to use his leisure time constructively is problematical. It might be that the Church, with proper encouragement, could do a job here which the mill cannot touch. However, there is no doubt that out of the present state of flux and change will come a renewed enthusiasm for living and working which is the great essential for all of us.

KARL REILAND, D.D., *Lindale, Ga.*

"the church can do a job which the mill cannot touch"

Photo by Coxe

A Director of Vocational Education Speaks . . .

Today, children of mill employees and the more ambitious mill employee himself, through good day-schools and widespread vocational classes, are finding the way to surer command over their livelihoods. Through their daily work, through vocational classes and textile colleges, thousands of the most competent and determined older workers have won promotions to minor and major leadership in the industry. Many a sweeper of yesterday is a top executive today.

The traditions of this great industry come down from the textile family-labor system of Old England and the plantation system of the Old South. An institution may decay if it clings too closely to traditions of practice; it grows as it makes traditional the ideals of its service. Education is a means of avoiding this decay and keeping democracy working efficiently.

Systematic research in materials and processes in place of guess or prejudice; employment, promotion, and discharge by abilities instead of by families and whims; scientific determination of jobs and wages; recognizing and training talents as never before; free choice in industrial relations; all these seem obvious needs in keeping the southern textile industry true to the ideals of its service in the evolution of our American way of life.

THOMAS H. QUIGLEY, *in charge of vocational training, Georgia School of Technology, Atlanta, Ga.*

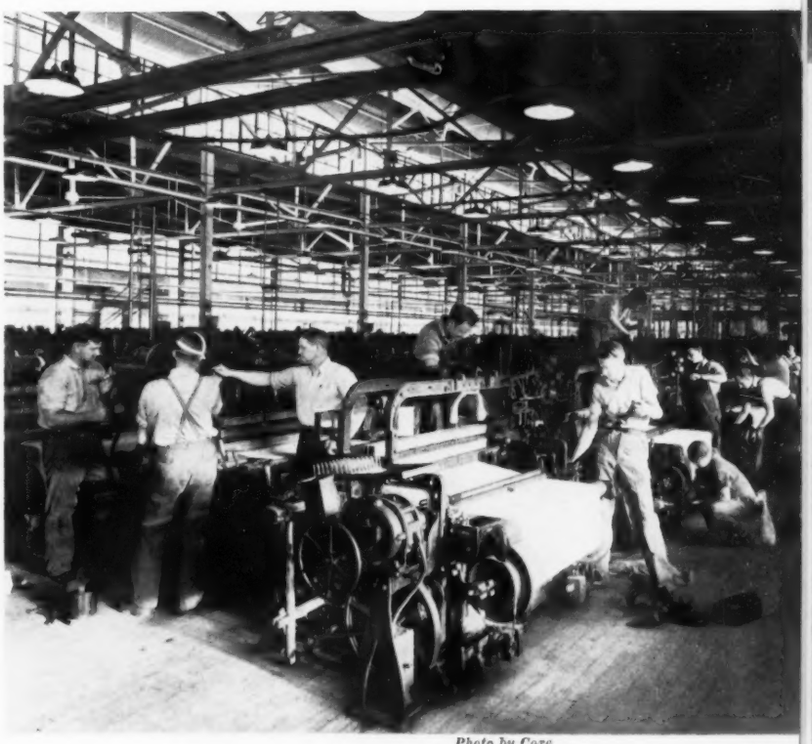


Photo by Coxe

"the way to surer command over their livelihoods"

Photo by Coze

"give them what they want, 'or else' "

A Retailer Speaks . . .

Speaking as a retailer, I can certainly say that the advantages of the textile industry to the South are obvious. A very substantial part of the volume of retail business in the textile South comes from those of our citizens who are employed by our cotton mills or indirectly connected with the industry.

It is in the future progress of the industry that we should interest ourselves. No industry should or wisely will produce more than it can sell. Yet we know that customers will not buy more than they need and can use. Therefore, our task is to find new uses for our products so that we can sell more goods to more people.

How can this be done?

Well, let's take a lesson from the automobile manufacturers. Every automobile owner in America is "hungry" for a new car the minute new models appear, regardless of the condition of his present car. Why? Because the new ones always look different and look good.

In other words, it's in the styling.

It is my observation, again as a retailer, that men and women are just as eager for something new and different in apparel and house furnishings and what not, as they are in automobiles. Let's not forget that Henry Ford made his millions by giving the people what they wanted, when they wanted it, and at a price that they were willing to pay. But . . . let's not forget also that Mr. Ford junked his Model-T as soon as he saw that the public was getting style conscious, and he has been keeping abreast of the style trends ever since.

Today people want color, brightness, newness, always something new and different, and we've got to give them what they want "or else." What they'll want tomorrow no one can even guess, but whatever it is the public will take that and nothing else.

Another point which we sometimes forget in our zeal to promote cotton is the fact that in order to increase the use of cotton it is not always necessary to sell 100% cotton products. For example, a Palm-Beach suit is 55% cotton; other mixtures of cotton possibly would have the same appeal if properly styled and promoted.

To sum it up, the future of the textile industry, as I see it, depends largely upon the ability of the industry to change pace quickly to meet new conditions and to push cotton products for use where cotton products were not used before.

C. HEYWARD MAHON, ***president, Heyward Mahon Co., Greenville, S. C.***

A Consumer Speaks . .

One day last summer I looked idly about my old house, built nearly 150 years ago by a Virginia pioneer to this section, dressed cooly in its tropic garb of airy white, and wondered why all southerners—all northerners, too, for that matter—do not shed their drab winter cocoons on the first hot day of summer and take shelter in the sheer coolness of cotton fabric.

Only yesterday my square rooms had offered the banked fires of heavy red silk draperies, dark tapestry, richly-colored Oriental rugs. Today, the tall windows breathed lightly in transparent 4c. a yd. tobacco cloth and the furniture slept under the washable whiteness of 12½c. a yd. osnaburgs—the same type osnaburgs hauled to Greenville from Philadelphia or Charleston in wagons as early as 1792. Wool rugs now bided their day in the store room while cotton chenille summer rugs took their place. Loosely crotcheted cotton mats supplanted the linen on the dining room table. Upstairs, I pulled from closet shelves cotton bedspreads hand-woven by slaves on a cotton plantation more than a century ago, and hung again 1929 cotton-chintz draperies, their gay colors true as they were a dozen years ago. My old house in its June dress appeared lovelier than ever—and the thermometer seemed to have catapulted at least ten degrees.

Why, in heaven's name, I wondered, when such delicious comfort and charm may be had at such small cost, shouldn't the housewife reap the full joy of the tropic staple of the South? With the first coming of the dog days, why should she not transform her house into a summer home?

Being a realist as well as an idealist, I began automatically to make out the husband's case in the matter. The cheap cotton material was supplanting the far more expensive silk or wool for at least one-third of the year; wear and tear along with sun fading and summer grit were thus deducted for this period from the more permanent investments of the home. Draperies, tapestry, rugs and linen not in use some four months of the year would have many years' added life.

And, being an ardent southerner myself and a firm holder to the faith that cotton should not be permitted to go the sad way of rice and indigo, my idle thoughts that summer day formulated a query: If my library alone had used some 60 yd. of tobacco cloth at its windows, some 25 yd. of osnaburgs for its furniture, and goodness knows how many yards of cotton for its rugs, how many spindles might be kept humming that a whole house be decked in summer clothes?

Perhaps the cotton manufacturer might sell the summer house idea to housewives. Federated clubs might properly sponsor the crusade in an esthetic as well as patriotic vein. Cotton mills might profitably sponsor contests and offer outstanding cotton gifts as prizes for State and local club members. Southern chambers of commerce, trade associations, retail merchants, might well follow suit in a common enterprise to hoist King Cotton—chief crop and chief industry—back to his high throne once again.

MARY C. SIMMS (Mrs. A. D.) OLIPHANT,
Greenville, S. C.

"dressed cooly in its tropic garb of airy white"

Photo by Coze

"We have enjoyed the support of practically every manufacturer of machinery, equipment, accessories and supplies in the United States."

The President of S.T.E. Speaks . . .

The first Southern Textile Exposition was held November, 1915, in a railway warehouse in Greenville. The idea had its birth in the minds of a group of superintendents, master mechanics, representatives of machinery and equipment manufacturers, and editors of textile magazines.

A corporation was formed in 1916. The bonds and stock were subscribed by the mills, machinery houses and public-spirited citizens. Textile Hall was completed in 1917 and is now the permanent home of the show.

Thirteen expositions have been held. Textile Hall has had the same ups and downs as the trade has endured, but through it all, we have enjoyed the support of practically every manufacturer of machinery, equipment, accessories and supplies in the United States. We have had the generous cooperation of manufacturers of cotton, wool, silk, rayon and linen products. We have made progress along with the advance in mechanical technique and finishing which has been noted in the industry during recent years.

These biennial events bring together in Textile Hall the machinery, equipment, appliances, processes, accessories and supplies which make possible the production of fabrics of a wide variety of use and beauty. Executives from the office and from the plant as well as operating personnel attend in large numbers.

We have studied exposition management in other cities and have made our rules and regulations in such manner as to obtain the advantage of the best features of the important shows. We are indebted to our exhibitors for many suggestions, and we are glad to receive them. Some of the rules at times may appear arbitrary, but they are framed solely with the desire to insure an orderly and harmonious exhibition without obtrusive and over-colored decorations, signs and embellishments. The most important things in the show are the exhibits themselves, and the most important people to please are the exhibitors and the visitors. They alone have made this exposition one of the biennial public events of the country, and with their counsel and assistance we shall continue to make them larger and better as time goes on.

W. G. SIRRINE, ***president, Southern Textile Exposition, Greenville, S. C.***

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

Yes, You Have to Be the Spear-Head!

WE KNOW WHAT G. H. Conze, president of the National Federation of Textiles, meant when he told the annual meeting of his group that "there was a very constructive tendency (during the last year) to re-appraise the Federation in the light of its present philosophy and purpose, which is not to act as the spear-head of reform in connection with the economic policies of either our industry or the country at large but to be an organization for practical service to its members and the industry."

There can be no question about the positive implications of that statement. The "practical service" of an association to its members and its industry is the bread-and-butter reason why manufacturers join an association. The record of the Federation, under its present title and under its previous title of the Silk Association of America, is eloquent testimony to the vital importance of such practical services. Without them, it could not have lasted to celebrate its 68th year.

But there is also an inarticulate desire on the part of members and the industry at large for leadership through the maze of economic and social cross-currents once again confronting textile manufacture as the coming aftermath of the second world-crisis in two decades.

In fact, this inarticulate desire is an inarticulate demand—for reform not in the shape of advocacy of academic theories, but in the shape of adjustment to new facts and new conditions.

Therefore, the Federation or any other textile association *must* act as the "spear-head of reform in connection with the economic (and this writer adds 'social') policies" of its industry, and of the country at large—insofar as the policies of that industry affect, or are affected by, national economic and social trends.

The association must anticipate the dislocations among sections, among fibers, and among industries—and must create for the future not permanent prosperity, which will never be with us, but a relative stability and progression which can be *made* permanent.

If the textile associations don't do that job for the industry, then the unions and the Government will, in their own way.

So, right now while the textile business is on the up-and-up, while most companies are paying their way, while workers find full-time employment at high wage-scales, how about thinking of the time when this picture *will* (not *may*) change?

IN TEXTILES, that prospect can be itemized fairly exactly. With the war-boom will come plant expansion. But it's going to be tougher this time than last time. The first World War substituted double-shift for single-shift operation. The second World War will substitute three shifts for two.

And this time, there will be not merely the competition between New England and the Piedmont South. There will be the new competition between the latter section and new-found industrial areas to the Southwest and the West.

Nor will there be merely the encroachment of a few million pounds of synthetics into the markets of the natural fibers. There will be, instead, the blitzkrieg from a great synthetic-fiber industry, running into hundreds of millions, and eventually billions, of pounds annually.

There will come again over-competition, price wars, devastated mill-towns, unemployment, stagnation.

Unless!

Unless the textile industry, through its associations, does something about it!

AT THE MOMENT, this discussion will seem academic to most of our readers. Their immediate problem is not getting business, but making deliveries.

However, this too will pass. Eventually, there will be no more defense orders. Eventually, the "prosperity" in industries whose workers consume textiles will dry up. Eventually, the defense bill will have to be paid. And it can be paid either in an orderly fashion, or in a succession of inflation and deflation which will make all past economic upsets look like mere ripples in the industrial pool.

Europe reached its degradation of today primarily through economic collapse. We in this country staved it off by being strong enough to weather the depression of the 1930's. This writer is convinced that we can not weather another such depression and come out of it as a free democracy, particularly since the next collapse would be far worse than the last.

While we are building up our material defenses against possible attack from the enemy nations, we must also build up defenses against not only possible, nor merely probable, but actually inevitable attack upon our internal economy, from within.

The only resistance to that attack is to make our economy strong. The starting place for textile manufacturers is their own industry. And the media for the adjustments required are the trade associations.

Consequently, those groups *have* to act as the "spear-head of reform."

THE EDITOR SAYS

Supply All Weapons Short of Starvation!

Shall we feed the starving? Unbelievable as it is, that question faces us today. Shall we permit millions of helpless people in the conquered democracies to die, or to grow up as physical and mental weaklings?

The question is, of course, "loaded." There is, on the one hand, the claim that every pound of food sent into Nazi-controlled territory is aid to Hitler, and therefore a blow against Great Britain and, eventually, against ourselves. As a son of a Britisher, and as one who has believed, personally, that we should have been an active participant in this war long before this, this writer can understand and sympathize with this view.

But there is another side. There is the fact that even victory is not worth the loss of basic spiritual values.

Hitler achieves his victories through ruthlessness. Sooner or later he will find them hollow victories. Great Britain and the Americas cannot hope for ultimate and lasting victory if they emulate, even in the smallest way, the tactics of the fiend whom all of us are fighting.

And the starvation of millions is no "small way."

There is another, and a purely practical, side to this problem. The surest way to perpetuate Nazi domination is to keep the people in his conquered nations starving, abject, servile. A hungry man or woman or child knows nothing but the desire for food. We have no doubt that Hitler realizes this fact—and that he counts on starvation as his main ally against resistance on the part of the vanquished. If the French or the Belgians or any other erstwhile great people can get food only at the whim of Hitler, they will be completely subservient to him. And they will go so far as to hate their former allies for keeping food from them. The recent announcement of the Vichy Government is a case which bears out this contention.

The smart way for Great Britain and for all still free countries to act is the positive way. Instead of following Hitler down the starvation road, how about trying the role of benefactor?

Granted that there is no sure way of preventing *some* diversion of food, the American Red Cross and other agencies represent media by which the bulk of such food can reach the needy in the conquered nations.

It seems to this writer that, while this country is appropriating billions to aid Great Britain, it should have something to say about relief in Europe. If it is enough our war to impel us to supply weapons, it is enough our war to enable us to help determine what weapons should be used.

And starvation is not one of them!

Pacific Follows Through

When we paid a tribute to Pacific Mills for its merchandising aggressiveness in developing the Factag, for the enlightment of the consumer, we expressed a regret that percentages of fiber content were omitted, and added the belief that eventually the proved progressiveness of Pacific Mills would lead them to this further step in their educational program. That step has now been taken and the Factag will carry on it the percentage of fiber content of the lines covered. Consequently, this time we offer Pacific our congratulations without any "but."

The Fifth Column

Nobody likes the Fifth Column, except the Fifth Column itself. But too many people believe that the only way to repress the Fifth Column is through their own individual and pet ideas of repression. That freedom dies that way does not seem to occur to them. Possibly they might recall Thomas Jefferson's words to Thomas Cooper when the Sedition Act was passed during his (Jefferson's) vice-presidency, and against his judgment: "It's worse than tyranny. It's fear. It's fear that people will say what they think" . . . Now, if ever, is the time to permit people to say what they think. Thus, they come out in the open and can be counted. Drive them underground at the expense of, not in the name of, freedom! Fortunately, as Thomas Cooper himself said later, "there is no end to the battle of liberty." Europe, at the heel of a dictator today, should take heart from that thought. And we in this country, still free, should take heed of it.

Add Red Hot News Department

The following is an A.P. dispatch from Washington:

"Officials asked weather bureaus throughout the country today to stick to their original offer—a $1 reward for the return of the radio devices which are sent aloft to gather weather data and which descend by parachute. In a fit of economy, it seems, the Denver bureau decided the silk in the parachutes ought to be retrieved, too, and offered a $1 reward for the devices plus parachutes—but got neither devices nor parachutes. An investigation finally disclosed that women were finding a use for the red silk in making underwear."

It's a Wow!

Here's an item from a Washington paper:

"The District section of the American Institute of Mining and Metallurgical Engineers is an august scientific body which grew tired of hearing after-dinner speakers say the same thing in different ways. Last night more than 150 members and guests of the organization and its Woman's Auxiliary gathered at the Columbia Country Club for a 'speakerless dinner.'"

This movement is spreading fast. Better get on the band-wagon. Soon, it will be against the law to make a speech (either before or after dinner.)

We hope.

Ticklish Tommies

The underwear trade will be interested in the following U. P. dispatch from London:

"A new problem has arisen in the armed services—the length of the army's drawers. Succinctly stated by a sapper, the problem created by Government-issued long woolen underdrawers is that 'they tickle.' Another soldier protested on purely esthetic grounds. They are bulky and unsightly, he said. 'Why, I'm shy even to let my wife see me in them,' he complained. As a result, many of the troops have been cutting off the anklets. To stop this practice, a fine of 70c. has been imposed."

Most Long-Term Bids Now in Works

Invitations have gone out—More orders this fiscal year depend on emergency

McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, Chief Correspondent
Blaine Stubblefield
Irvin D. Foos Carter Field
Robert Colborn M. G. Maury

By BLAINE STUBBLEFIELD

INVITATIONS TO BID have gone out, covering practically all of the Quartermaster's recent $175,000,000 long-term purchase appropriation, largest peacetime program. At this writing, QM contemplates only a small deficiency request for the remainder of this fiscal year. There is no letup in sight as yet on the present rate of textile, clothing, and equipage production for defense. Though the War Department makes no commitments as to the future, Washington feels that the imminence of increased man-power authorization is growing. The present authorized Army strength stands at 1,400,000, plus the Civilian Conservation Corps. A call for two or three million men might double present procurement program.

Outstanding among current procurements under the long-term program are: 2,000,000 2½-lb. wool blankets; 28,000,000 yd. cotton uniform twill (offering of 52,000,000 opened Mar. 11); 10,200,000 yd. OD flannel shirting; 3,300,000 yd. cotton wind-resistant cloth; 1,725,000 yd. cotton duck; 4,900,000 yd. 18-oz. serge, dark; 5,000,000 yd. 18-oz. serge, light; 495,000 yd. 18-oz. OD elastique; 106,000 yd. 56 in. OD elastique, dark; 3,200,000 yd. OD melton overcoating; 424,000 yd. wool suiting; 4,000,000 pr. mixed wool drawers; 4,000,000 mixed wool undershirts; 17,000,000 pr. light wool socks; 2,000,000 pr. woolen OD gloves; 1,500,000 wool service coats; 2,690,100 pr. wool trousers; 975,000 wool overcoats. Longest delivery terms so far are 250 days on wool goods and 285 days on cottons; probably won't be any increase.

Still heading this list, as a critical item, is twill, which is practically an all-purpose cloth in the Army. Discussing a recent award for 15,500,000 yd. of this fabric, Quartermaster officers brought out the interesting fact that 17,500,000 yd. had been offered, and the difference rejected because the price was too high. They had no further comment, except to say that the long-term program is designed to alleviate price pressure. On 8.2 oz. twill one bidder, about a year ago, got an order at 39.5¢; recently the same bidder got an award at 52.9¢.

Another new point, on *all* cotton cloth, is a clause that was being framed into the QM contract form at this writing, to protect the manufacturer against the possibility of increased costs as a result of processing taxes on cotton.

There is a new wrinkle in the wool picture, too. QM recently inserted in calls for bids on wool cloth, a clause setting up a price differential in favor of domestic wool, without saying what the amount of the differential would be. This caused some confusion until it was explained that the differential will not be set until the awards are made. It will change with prices and conditions. This is how it works: Contractors using 20% of foreign wool from the start of the contract till July 1, will be penalized 1% of the differential. After Aug. 1, when the spring clip becomes available, the penalty will move sharply upward so that a manufacturer using 50% of foreign wool will sacrifice entire differential. Action is based on the old Buy American Act.

In this connection, the Navy does not have any differential on foreign wool as yet, and probably will not have. Speaking of Navy procurement, calls for bids are going out now, under the new appropriation for fiscal 1942. The revolving fund is being increased by $3,000,000, and contemplated expenditures for 1942 will be about $16,000,000. Authorized personnel has been increased from 258,000 to 300,000 men, and more increases probable. Some of the notable procurements, completed or under way: 4,000,000 yd. 29 in. bleached drill; 1,000,000 yd. 32 in. bleached drill; 650,000 yd. 55 in. blue flannel; 600,000 yd. 55 in. blue melton; 1,000,000 29 in. cotton sheeting; 2,500,000 yd. ⅝ in. white cotton tape; 2,050,000 pr. cotton socks; 2,774,000 cotton undershirts; and many others. The Navy never fails to boast of its fine relations with suppliers.

OVER IN PHILADELPHIA, getting back to the Army, the QM Depot is trying to procure woven mosquito netting, and thinks it has it in a leno weave with a permanent finish. The difficulty has been to get a permanent finish which will make the stuff stand up and resist slipping of warp along the filling, at the same time not absorb and retain chlorine from laundry bleach solutions.

In the works is a four-piece khaki winter-combat suit of trousers, blouse, jacket and helmet, made of cotton cloth and lined with 20-oz. wool fabric, treated to repel water and wind.

Philadelphia is responsible, also, for the explanation of an apparent contradiction. Bids were called for on 28,000,000 yd. of 8.2-oz. twill, and opened March 11. Four types were mentioned in the invitations, which also said that not over 38,000,000 yd. would be taken. This meant that if all combed yarn goods were taken, the limit would be 28,000,000 yd. But if lower priced goods were accepted, the top might be 38,000,000 yd.

Incidental intelligence is that no moth-proof woolens have been called for, or contemplated. Samples of Cordura raincoats are in the lab; no tests made yet. Some rayon is used as lining fabric in cadet flying coats, and nurses' coats. Flying cadet serges, elastiques, and doeskins have been changed from blue to OD so the boys can wear the same outfits when they're in the Army; there was some change in cloth construction. Wool glove offerings recently fell short because they didn't meet the specifications. Blue denim cap replaces the work hat. Parachute troops at Fort Benning, Georgia, are in one-piece rayon-cotton snag-proof suits, design borrowed from football field.

Sand bags would be demanded by millions if we lined up with the belligerents. But we wouldn't use ship space to haul burlap from India. The bags would be made of osnaburg, with mildew proofing, which costs more but lasts better than burlap. Sandbag procurement is by the Engineer Corps.

Canada's War Experiences

Point way to methods by which U.S. mills may meet demands of national defense

Ways in which Canadian mills are meeting wartime conditions, as described in the two short articles on this page, should be of real interest to mill men in the United States who are facing similar defense problems. The first article, by John Henderson, of Newlands & Co., shows how proper production planning cut twisting losses. The second article, by C. Wills, of Montreal Cottons, Ltd., is an abstract of a paper delivered at a recent meeting of the Canadian Association of Textile Colourists & Chemists, and supplements a discussion of vat dyeing of khaki which appeared in our December, 1940, issue. In a letter which accompanied his article, Mr. Henderson stated: "We have done considerable work to increase our productive capacity to cope with wartime demand, and have had quite a bit of success. We are anxious to compare notes with other plants through the medium of your publication." We shall welcome contributions from readers who care to respond to Mr. Henderson's request.—*Editor.*

Cuts Twisting Losses

WE DISCOVERED that it costs us real money in our worsted twisting department when bobbins are not full, when they are too full, and/or when they do not run off clean. Here is what we found out about these problems when we began to set work standards in our twisting department, on 4-ply yarns. Small bobbins were increasing our labor cost 7%. Putting over-full bobbins in shape was increasing our labor cost 3%. Clearing waste left on bobbins increased our labor cost 5%.

Consideration of these factors prompted us to investigate waste in this department. It was found to average 1.3% of the yarn produced. With these figures before us, we arranged a meeting with the foremen concerned to discuss the conditions. After some debate several points were agreed upon, as detailed below.

Standard bobbins sizes were determined. These are now checked daily by dividing the number of bobbins per basket into the weight of the yarn in each basket. Determining the number of bobbins in each basket was made possible by recording the number of spinning frame doffs put into the basket and multiplying this by the number of spindles on the frame.

A standard of 0.1% was added to the labor cost, the allowance being for fixing unavoidable over-full bobbins.

A temporary allowance of 3% was paid operators for clearing waste from spinning bobbins until this condition could be eliminated by the foreman of the spinning department. He later reduced this to a negligible quantity and the allowance was therefore removed.

A standard of 0.4% was established for waste. This was arrived at by relating the following factors to the yardage per bobbin: (1) inches waste at start of a creel bobbin, (2) inches waste at each break, (3) inches waste at end of each creel bobbin, (4) inches waste at end of each doff bobbin, (5) inches waste from unavoidable over-full creel bobbins, (6) inches waste from unavoidable overfull doff bobbins, (7) inches waste from winds on rollers due to faulty detectors, and (8) percentage to be added to cover flyings, etc.

Since these standards were put into effect our loss percentages have been reduced to the following: under-size bobbins, 3%; over-full bobbins, 0.25%; waste on spinning bobbins, nil; waste percentage, 0.75%. These four factors represent a saving of several thousand dollars annually.

Vat Dyeing Khaki

COMMON FAULTS which occur in the vat dyeing of khaki on cotton fabrics include mottled ends, stained selvages, color spots, and streakiness.

Mottled ends can be caused by easing off the tension on the jig too early when nearing the end of the beam, or not applying tension quickly enough after striking in; but the most common cause is when the batch is allowed to stand too long between reducing and washing or between washing and chroming. Another source is insufficient washing before chroming.

Uneven cloth width is the most common cause of stained selvages, and it is sound practice to tenter to an even width before dyeing. Shortage of caustic or hydrosulphite also leads to this trouble. The fault can also be caused by too slack a beam tension.

Color spots are usually due to oxidized scum from the surface of the bath, rather than from undissolved color. Should it be found that certain dyes have a tendency to froth, use of an anti-frothing agent is advisable.

There are three probable causes of streakiness; namely, unsuitable singeing, acceleration of dyeing by addition of too much salt or working at too high a temperature, and shortage of caustic soda.

A method sometimes used to produce vat-dyed khaki continuously is known as the "printers' way"—that is, by padding the fabric through a bath containing the micro-powder dyes, a dispersing medium, hydrosulphite-formaldehyde, and potassium carbonate. The padded cloth is then passed over cylinders, and into a continuous ager, where the color is reduced and dyes the fabric. The cloth is then chromed, washed, and soaped, continuously. Results of this method of production are of a high standard; and in this continuous method we have the possible future trend of large-volume production of vat khaki.

Fabrics For National Defense

Information on three cotton fabrics used for clothing our armed forces

By JOHN HOYE

DENIM, BLUE, FULLY SHRUNK, covered by Federal Specification CCC-D-151A, is used for soldiers' work clothes. It is made in two types, white-back and mock twist, and in four classes, A, B, C, and D. Classes A, B, and C are 3-harness warp twills. Class D is a 4-harness warp twill.

Denims are given both fully-shrunk and unshrunk finishes; most of those specified are fully shrunk. The unshrunk denim is covered by Federal Specification CCC-D-156.

General Specifications:

White-back type—Warp shall be indigo blue and filling shall be unbleached white or slightly tinted according to commercial practice.

Mock twist type—Warp shall be indigo blue and filling shall be spun from one white and one colored roving, in accordance with commercial practice.

Thoroughly cleaned cotton, free from waste, shall be used, and workmanship shall be first class in every respect.

Color—Colored yarns shall be dyed with indigo and shall be of the shade acceptable in commercial practice.

Fastness—When tested according to methods described in Federal Specification CCC-T-191, finished denims shall show good fastness to light and water, and fair fastness to laundering and crocking.

Shrinkage—Shall not exceed 1% in either warp or filling, laundering test to be made according to CCC-T-191.

Weave—Shall be 3-harness (2/1) right-hand twill unless otherwise specified; class D shall be specified only in 4-harness (3/1) twill.

Width—28 in. minimum between selvages; a tolerance of plus 1 in. is permitted.

Length of pieces—Finished pieces shall average 50 to 60 yd.; double lengths shall average 100 to 110 yd.; lengths under 40 yd. are not acceptable.

Construction: (all 28 in. in width.)

Class A—61x39, 2.20 yd. per lb., 9.10 min. oz. per sq. yd., 145x58 lb. min. strength (1x1x3 grab). Class B—67x46, 2.00 yd. per lb., 10.03 min. oz. per sq. yd., 150x70 lb. min. strength. Class C—69x45, 1.85 yd. per lb., 10.82 min. oz. per sq. yd., 167x75 lb. min. strength. Class D—71x43, 1.60 yd. per lb., 12.09 min. oz. per sq. yd., 177x90 lb. min. strength.

The minimum oz. per sq. yd. weights given above include a 2½% minus tolerance based upon the nominal yd. per lb. weights.

The following weights of unshrunk denims (not given in specifications) are approximately those necessary to produce shrunk denims of proper weight: A—2.40 yd.; B—2.20 yd.; C—2.00 yd.; D—1.78 yd. Common range of yarn sizes is 7s to 10s warp, and 8s to 16s filling.

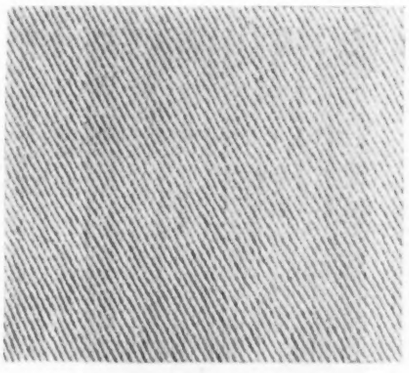
DRILL, BLEACHED AND SHRUNK, covered by Navy Specification No. 27D5C, is used for seamen's undress uniforms; i.e., jumpers, trousers, and the crowns of caps. This fabric, also known as White Navy Twill, is divided into five types, designated A, B, C, D, and E. Types C and D are those most commonly used; they differ from each other in width only. Types A and B have the same specifications except for width. Type E is a fine-yarn, lighter-weight fabric.

All five types are 4-harness, warp faced, single-yarn twills which are bleached, mercerized, and shrunk.

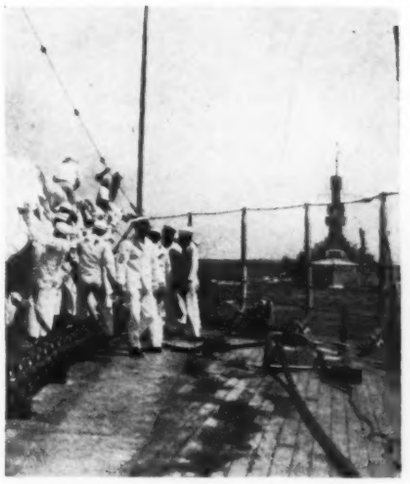
Finished specifications:

Types—A, 29 in.; B, 32 in.; combed warp and carded filling. C, 29 in.; D, 32 in.; combed yarns, warp and filling. E. 35 in.; all combed yarns.

Weave—4-harness, warp faced twill, 3/1, twill line runs upward to the left.



Cotton Navy Drill. Type C; approximate gray construction—31 in., 96 x 56, 2.31 lineal yd. per lb.



Sailors working aboard ship, wearing bleached cotton drill uniforms

Finish—Fully singed, soft, pliable; shall be fully bleached but not under- or over-bleached; color shall be bluish white and only Indanthrene blue shall be used for tinting.

Shrinkage—In tests for shrinkage made according to Federal Specification CCC-T-191, fabric shall not shrink nor stretch more than 1% in length or width.

Physical Requirements:

Types A and B—100x50; 170x85 lb. min. breaking strength (1x1x3 grab); 7.5 oz. per sq. yd. Types C and D—100x54; 170x110 lb. min. breaking strength; 7.5 oz. per sq. yd. Type E—100x60; 110x60 lb. min. breaking strength; 4.75 oz. per sq. yd.

A 5% tolerance is allowed on weight.

[Approximate gray cloth construction (not given in specifications) necessary to meet finished requirements: Types A and B, 31 and 35 in.; 96x52, 2.26 and 2.00 yd. per lb.; 16's combed warp and 11.5's carded filling; types C and D, 31 and 35 in., 96x56, 2.31 and 2.05 yd. per lb., 16's combed warp and 13's combed filling; type E, 38 in.; 96x62, 2.41 yd. per lb., 22's combed warp and 16's combed filling.]

No. 8 in a series designed to aid manufacturers in production of fabrics for national defense. Mr. Hoye, author of "Staple Cotton Fabrics," again interrupts his regular series to present information on defense fabrics.

32½¢ Back in the News

Dormant minimum-wage issue revived as new committee is named by Fleming

From TEXTILE WORLD'S Washington Office

THE ISSUE OF 32½c which flared up as the big textile news of the spring and summer of 1939, and then retired to the wings as war and defense stole the show, made an attempt to regain the spot-light on March 13 when Gen. Philip B. Fleming, Wage-Hour Administrator, announced the appointment of a new committee to recommend a minimum wage for the cotton, rayon and silk divisions of the textile industry. Lessing Rosenwald of Jenkintown, Pa., former chairman of the board of Sears, Roebuck & Co., was named chairman of the committee. The committee will meet in Washington on April 14.

This is part of the procedure that is being followed: namely, to appoint new committees to review the economic status of the several industries since the first minima were established, and to recommend to the Administrator the maintenance of the former minima or the establishment of new ones. The committee is empowered under the Act to recommend minimum wage rates up to 40¢ an hour, and consequently the battleground for this particular committee is the zone between 32½¢ and 40¢. The present minimum of 32½¢ was recommended by the first textile committee, which was headed by Donald M. Nelson, now head of the Division of Purchases of the OPM.

In addition to the chairman, the personnel of the new committee is: For the Public: Barry Bingham, president and publisher, Louisville (Ky.) Courier Journal; Arthur Raper, Bureau of Agricultural Economics, U. S. Department of Agriculture, Greensboro, Ga.; Harry D. Wolfe, Professor of Economics, University of North Carolina; Colonel Ike Ashburn, Texas A. & M. College; Amy Hewes, professor of economics, Mt. Holyoke (Mass.) College; Malcolm Keir, professor, Dartmouth College. For the Employers: Donald Comer, chairman, Avondale Mills, Sylacauga, Ala.; Charles A. Cannon, president, Cannon Mills, Kannapolis, N. C.; W. Harrison Hightower, president, Aldora Mills, Thomaston, Ga.; Sam H. Swint, president and treasurer, Graniteville (S. C.) Co.; R. C. Dick, treasurer and general manager, Naumkeag Steam Cotton Co., Salem, Mass.; Allan Barrows, treasurer, Gosnold Mills Corp., New Bedford, Mass.; Henry E. Stehli, president, Stehli & Co., Inc., New York. For the Employees: Emil Rieve, general president, Textile Workers Union of America (CIO), New York; Edward Doolan, T. W. U. of A., Fall River, Mass.; Elizabeth Nord, T. W. U. of A., Manchester, Conn.; Roy Lawrence, T.W.U. of A., Charlotte, N. C.; Horace White, T. W. U. of A., Greensboro, Ga.; Frank P. Fenton, director of organization, American Federation of Labor, Washington, D. C.; Robert J. Watt, international representative, A. F. of L., Washington, D. C.

ON FEB. 19 the administrator announced appointment of a committee to recommend a new minimum wage for seamless hosiery workers. The entire industry is now operating under a wage order providing 40c for the full-fashioned branch, and 32½c for the seamless. The committee will base its decision on an investigation and hearings. Its first meeting will be early April. This industry, like "textiles," is anxious for a prompt decision.

The membership: For the Public: G. Allan Dash, Jr., chairman, Wharton School of Finance and Commerce, University of Pennsylvania; Frank deVyver, Duke University, Durham, N. C.; Burton R. Morley, School of Commerce and Business Administration, University of Alabama. For the Employers: J. Lee Bausher, president, Infants Socks, Reading, Pa.; J. C. Greer, vice-president, Charles H. Bacon Co., Lenoir City, Tenn.; W. W. Neal Sr., president, Marion (N. C.) Hosiery Mills. For the Employees: Alfred Hoffman, first vice-president, American Federation of Hosiery Workers, Philadelphia, Pa.; Bert Branham, A.F.H.W., Chattanooga, Tenn.; Ambrose McCormick, A.F.H.W., Milwaukee, Wis.

Any recommendation of the committee will be the subject of an administrative public hearing at which any interested person may appear and testify.

There was no official comment on the possibility of convening other industry committees to reconsider other wage orders, but off the record, most Federal officials concerned with textiles said that such action was more than probable. The law calls for review "from time to time." The Administrator is required to increase the minimum wage as rapidly as economically feasible without curtailing employment opportunity. Undoubtedly, observers point out, the present defense activity has affected the status under that formula.

Persons involved in the formation of the new Textile Committee No. 1 said the industry is anxious to have quick action, compatible with adequate study of the facts. The manufacturers have huge defense orders coming up, on a long-term basis (six to 12 months), and they want to know their labor cost.

Federal officials expressed the opinion that a nominal minimum wage increase would not affect the industry very much. One labor office mentioned a list of 15 or 20 textile firms that have raised wages within recent months. But it was these officials' further opinion that the industry would object to an increase above 35c. The manufacturers, they believe, feel that a minimum wage based on present conditions probably would not be lowered when these conditions change—certainly not for the better. Manufacturers understand, of course, that the minimum wage automatically goes to 40c in 1945.

COMMITTEE CHAIRMEN: (left) Lessing Rosenwald of the "textile industry" committee; (right) G. A. Dash, Jr., of seamless hosiery group

Federation Pledges Practical Job

Such service is its aim, not economic reform—Conze re-elected president

TO BE AN ORGANIZATION of practical service to its members, rather than to act as the spear-head of economic reform, is the aim of the National Federation of Textiles, as affirmed at its 68th annual meeting Feb. 26. Outlining those plans in his message to the meeting, President G. H. Conze stated:

"The year just ended brought a keener realization to many in the industry that in the Federation they have a piece of cooperative machinery which has proven itself, over a long period of years, to be basically sound and practical; an instrument for self-help on the part of the industry which fits into its day-by-day activity in a tangible way.

"As a consequence, toward the end of the past year, there was a very pleasing freshening of interest and confidence in the Federation, increased loyalty and an appreciation of its valuable part in the affairs of the industry. There was a very constructive tendency to reappraise the Federation in the light of its present philosophy and purpose which is not to act as the spear-head of reform in connection with the economic policies of either our industry or the country at large but to be an organization, for practical service to its members and the industry. The result is that several important producer groups have joined the Federation recently and the prospects are bright for others doing so within the next few months."

IRENE L. BLUNT outlined in detail the many services of the Federation, in her report as secretary. She said in part:

"In the president's message, Mr. Conze has said that the present philosophy of the Federation is to provide tangible and practical service for the entire industry and, by no means, to act as the spear-head of reform in connection with the economics of our industry or of the country at large. To this might be added the statement that those who now are guiding the Federation believe in maintaining it as a cooperative machine, on a skeleton-like and economical basis, for possible use in emergencies when the Government or some other industry requires concerted action from our industry; very much as some communities maintain a volunteer fire department.

G. H. Conze, reelected president

Wm. G. Lord, elected vice-president

Irene L. Blunt, reelected secretary-treasurer

"The Federation, however, is drawn into consultation frequently with Government officials for the simple reason that the various departments of the Government and other industries, also, look to it as a spokesman for the industry. . . .

"*Defense Orders:* Early in 1940, the Federation brought up to date its file of specifications for various products which could be produced in our mills. Later there was issued to members a list of Government purchasing agents in various departments and in various sections of the country. The Federation receives weekly from the Department of Labor, Public Contracts Division, a list of contracts approved with details as to name of contractor, delivery date, type of product and total amount of order in dollars, the pertinent parts of which are passed on to members in bulletins. We also receive notices of invitations to bid.

"*Textile Co-ordination Conferences:* Since the first conference of various textile groups held soon after enactment of the Fair Labor Standards Act, similar meetings were held every few months to discuss many questions of mutual interest. In 1940, two such conferences were held, the first in the rooms of the Federation. We were hosts to a group of 25 association representatives under the chairmanship of Dr. Claudius Murchison of the Cotton-Textile Institute for an all-day discussion of wage and hour legislation as applied to textile mills. The second meeting covered a wider range of subjects. Defense orders, wage and hour regulations, market conditions, export possibilities and the Walsh-Healey Act were covered in an unofficial, informal discussion of experiences and information. . . .

Other vital functions of the Federation, reported on by Miss Blunt, include the Arbitration Bureau, the Examination Bureau, the Trade-Mark Bureau, the Design Registration Bureau, and the Planning and Research Bureau.

THE MEMBERS ELECTED as directors for the ensuing year: Ward Cheney, Cheney Brothers; G. H. Conze, Susquehanna Silk Mills; Jarvis Cromwell, Wm. Iselin & Co., Inc.; W. H. Hubbard, William Skinner & Sons; Alexander F. Ix, Frank Ix & Sons, Inc.; Wm. G. Lord, Galey & Lord, Inc.; Wm. B. Olmsted, American Viscose Corp.; J. W. Schwab, Cohn-Hall, Marx Co.; James E. Shields, J. P. Stevens & Co., Inc.; Henry E. Stehli, Stehli & Co., Inc.; A. D. Walker, A. D. Walker & Co.; Jacques Weber, Bloomsburg Silk Mill, and A. E. Wullschleger, Wullschleger & Co. Mr. Olmsted and Mr. Weber are new board members.

The Uptown Credit Group of the Textile Industry (an affiliate member of the Federation) announced, at the same time, that T. B. Luse of Commercial Factors Corp. had been elected to represent the Group on the Federation Board for the ensuing year.

At the meeting of the newly elected Board of Directors, following officers were elected to serve for the ensuing year: G. H. Conze, president; Wm. G. Lord, vice-president and I. L. Blunt, secretary and treasurer.

More Cotton For Your Money

When fiber-array diagrams are used to show length-values of the staple

By E. H. HELLIWELL

PRESENT-DAY DEMANDS for greater uniformity in the quality of finished yarns make necessary more precise methods of determining fiber-length values of raw cotton. Since these values play such a vital part in yarn quality, there is no reason why fiber-array diagrams should not be as valuable to the cotton classer as indicator diagrams are to the operating engineer.

An experienced, skilled cotton classer can detect and measure fiber which is longer than the classified length; he can also detect instinctively the presence of an abnormal amount of short fiber; but it is impossible for him to determine exactly the amount or the length value of this short fiber without the aid of a fiber sorter.

The mill classer knows, from experience, that cotton containing an excessive amount of short fiber reduces the breaking strength of yarn, that it increases waste losses in processing, and that it affects the appearance of the finished product. Extensive spinning tests have proved that the average length of staple, as well as the classified length, must be maintained if the yarn strength is to remain constant.

Determination of the classified length is a simple matter, but estimation of the average length is more difficult. What justification has a classer for rejecting a sample on his instinctive suspicion that it contains an abnormal amount of short fiber, unless this suspicion is confirmed by actual measurement? This proof, to be of value, must be fairly exact and quickly obtainable.

The technique of making fiber arrays is covered by much valuable literature written by eminent technologists; therefore, we can dismiss this phase of the subject with three important warnings: (1) Make sure that the small specimen laid down in the array is truly representative of the entire sample. (2) Avoid all undue stretch or breakage of fibers in manipulation; this stretch and breakage tends to be greater with Sea Island, Pima, and Egyptian types than with coarser staples. (3) No fiber length determinations should be made with unconditioned cotton; samples should be exposed, in an open state, at 65% r. h. at 70° F. for at least six hours; a variation in relative humidity of 5% plus or minus will have no noticeable effect on the results.

For the routine work of the cotton classer, none of the fiber-array literature previously mentioned gives an effectual method of evaluating the finished fiber array. The laboratory method requires precise measuring and weighing of each length group, conversion of this group weight to a comparative length value, and plotting of this value on the fiber-array diagram. This means a great deal of measuring, weighing, and computation—too much of all three to be of any immediate, practical value to the cotton classer.

Examination of well-made photographic reproductions of fiber arrays of various types of American cotton offers convincing proof that all the fiber-length characteristics of cotton specimens can be shown directly by fiber arrays.

FIBER LENGTHS. These arrays also show clearly that cotton specimens of the same classified length can vary greatly in average or mean lengths. A typical example of this shows two specimens, both of which are 1 1/16 in. classified length. The average fiber length of one specimen is 1.03 in. and that of the other is 0.84 in., a difference of 20% in actual length values. The classer who accepted the first lot would get a bargain in fiber-length value; the purchaser of the second lot would buy a lot of grief. The classer would hardly be keen enough to detect and estimate the percentage of short fiber present in either specimen, but fiber-array diagrams would show quickly and precisely the actual length value of each specimen.

Among laboratory-trained technologists, there is a firmly established belief that direct fiber-array outlines can approximate true fiber-length values only roughly. Actual spinning tests, however, prove that from a standpoint of yarn strength, these fiber-array values very closely approach actual spinning-length values. Furthermore, the cotton classer and the spinner are more concerned with the actual spinning value than with the weight per length group of the fibers.

This is not intended as a criticism of any method or technique used in making arrays or in determining values. Rather, it is an attempt to prove that fiber arrays have a real value to the cotton classer, and that these arrays can be evaluated in a simple, rapid, and precise manner.

Before fiber-array outlines can be accepted as direct indicators of fiber-length values, they must successfully meet certain fundamental tests. Repeated arrays of different specimens from the same sample should have only small percentage variations. The graph shown in the illustration gives outlines of three specimens from the same sample; the three are shown respectively by solid, broken, and dotted lines and the almost identical outlines of the three can be seen.

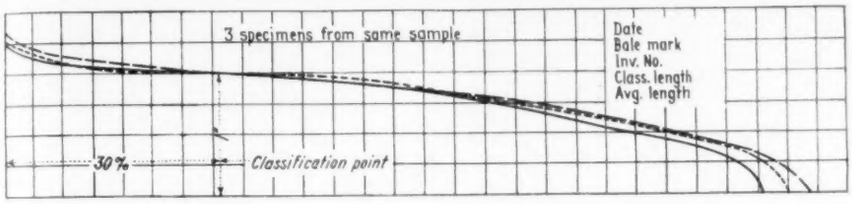
Each unit section of a fiber array, measured along the base line, should contain approximately the same number of fibers. The variation in the comparative number of fibers in each section of the array was shown as follows: Five equal sections were removed from the array and the mean fiber length of each was determined; each section was then carefully weighed. If the number of fibers in each section is the same, then the weights of the sections should be in direct ratio to their mean lengths, and the quotients obtained by dividing weights by mean lengths should be the same for all. The comparative number of fibers in each section should be in direct proportion to these ratios.

The table illustrates what probably is the best way to show the comparative number of fibers in each section without actually counting. It must be remembered, however, that it is based on the not strictly true assumption that the length-weight unit of all fibers in the array is the same. The slight variation shown in the comparative number of fibers in each section should not impair the value of the array.

Comparative number of fibers per length-section of array

Section	Weight	Length	W÷L	Comparative number of fibers
1	.022 gr.	.56 in.	.0393	1.000
2	.030	.77	.0390	.993
3	.036	.94	.0383	.974
4	.040	1.03	.0388	.987
5	.042	1.08	.0389	.989

Photo of fiber array with cross-section paper underneath; tracing along upper fiber line transfers array through carbon paper to diagram



Three fiber-array diagrams made from specimens of the same sample

The array section of longer fibers should not mask or conceal any shorter fibers. That this condition does not exist in properly made fiber arrays can be proved by removing a section of longer fibers and resorting them in a thin, extended array. The minimum length of fibers in the new array will be no shorter than in the original array.

These simple tests prove that a correctly made fiber array will show relatively precise fiber-length values graphically and with consistent results. In a uniform field, the number of fibers in each unit section is approximately the same, and length values can be taken directly from the array graph without the aid of precision balances or mathematical formulas.

THE METHOD USED to obtain the fiber-array graphs is simple and rapid. In the illustration showing the fiber array, it will be noted that the mat upon which the array is placed is attached to the holding plate only at the top and bottom edges, leaving an opening between the center of the mat and the plate. A strip of cross-section paper with carbon paper over it is slipped through this opening between the mat and the plate. The ends of the ruled paper extending beyond the ends of mat permit alignment of the base line on the paper with the white base line on the mat.

The upper fiber outline on the array is traced over with a pencil, or other marker, imprinting the fiber outline through the carbon paper to the cross-section paper beneath. Thus, the length values are indicated direct. Cross-section paper ruling of 16 spaces per inch makes the reading of length values and the estimation of percentages easy and rapid without the use of a rule. It will be seen that the base line of the array coincides exactly with base line on the cross-section paper, and that all fiber lengths are shown true.

There are two methods used in calculating the average fiber length from the graph. In the first, the number of small squares contained in each ½-in. vertical section between the upper fiber line and the base line is found. The sum of the squares in these vertical sections divided by 256, which is the number of squares (16 × 16) in each square inch, gives the area of the graph in square inches. This area divided by the length of the base line, in inches, gives the average length of fibers in the array.

Example:

Sum of squares contained in 13 sections of array = 1263

1263 ÷ 256 (squares per sq. in.) = 4.93 sq. in., area of graph

Length of array on base line = 6.25 in.

4.93 ÷ 6.25 = 0.788 in., average length of fibers in array.

The second method is less precise but much quicker, and the results obtained are close to those of the first method. At the center point of each ½-in. section the height of the fiber line from the base line is read, in sixteenths of an inch. The sum of these values divided by the number of ½-in. vertical sections gives the average length of fibers in the array. Where the end of the graph does not extend to the end of a section, the height of the fiber line above the base line should be taken at the center of the last portion. That fractional part of the last section covered by the graph must be added to the number of full sections for the complete divisor.

Example:

Sum of center-point readings in 1/16's = 162

Number of ½-in. sections = 12.6

162 ÷ 12.6 = 12.8 average length in 1/16's

12.8 ÷ 16 = 0.8 in., average length.

It is often desirable to ascertain what percentage of the total fibers are included in certain length groups. For example, what percentage of fibers are 1 in. or longer in length, ¾ to 1 in. in length, ½ to ¾ in. in length, and less than ½ in. in length. It is necessary only to mark the points on the base line directly below the places where the fiber line touches or intersects the selected vertical length lines, count on the base line the small squares between these marked points, and divide this number by the total number of squares along the base line.

Example:

The fiber line intersects the 1-in. vertical height line at a point 34 divisions from the left hand end of graph; the total number of squares in the base line is 101. Therefore, the fibers which are 1 in. or longer = (34 × 100) ÷ 101 = 33% of the total.

A valuable check on staple-length classification is shown on the graph. The classification length of normal cotton is consistently located at a point 30% of the total length measured from the maximum-fiber-length end of the array. Thin extended arrays, while they do not photograph as well, are recommended over the thick massed fiber arrays, because length determinations are more consistent and there is less danger of concealed short fibers.

THE CLASSER'S WORK includes duties other than the determination of length values; however, a reasonable number of bales from all lots can be arrayed, with special attention given to new types and new seasons' crops. He has official Government Standard samples to aid him in determining leaf, color, preparation, and classified length; fiber-array outline graphs should enable him to establish standards of his own for average length and other length values. The use of cross-section ruled transparent tracing paper for fiber-outline graphs enables quick comparisons of different types of cotton to be made by superimposing the graphs.

The importance of fiber length in its influence on yarn strength cannot be overstressed. The summary following a report of spinning tests made on eight varieties of American cotton by the U. S. Department of Agriculture stated: "The significance of the coefficients of determination is that approximately 90% of the strength of the 28s yarn is due to the length factor and 8½% is due to the strength of the cotton. The remaining 1½% is due to other factors, the effects of which are so small that they may be disregarded."

Celanese "Creative Fabrics" Shown

THE SECOND SEASON for "Creative Fabrics," a line developed by Celanese Corp. of America exclusively for the higher-priced dress houses, was marked by simultaneous showings in New York and Los Angeles on Feb. 18. Colors featured the important summer shades of navy, beige and gray, with soft pastels in greens and blues. There were also vivid colors for sports and evening wear. Illustrations show three models out of the group which made up the style show.

INHERITANCE . . . a fine, firm crepe of Celanese rayon and silk, slightly heavier than the usual sheer crepe, shown here in an original afternoon dress by Rose Tafel

STARSHEER . . . a light-weight sheer crepe of Celanese rayon and silk; has a minute cord-like texture; shown here in an original frock by Nina Price, combining light "Angelus Blue" with navy

SANDCHECK . . . a novelty sheer of Celanese rayon and silk; has a pronounced check, reminiscent of sports weaves; used in a dinner gown by Nina Price. The color is "Gertrude Lawrence Green," a soft sage, with a twisted girdle in two-tone orange and apricot Celanese rayon taffeta

Annual Contest Records Package Gains

CANNON MILLS—Despite the fact that its earlier presentations had twice secured recognition from the jury of award, Cannon Mills, New York, has been named for Top Award in the Set-up Paper Box Division of the 10th Annual All-America Package Competition, sponsored by Modern Packaging Magazine. The award recognizes the continued excellence of the annual changes in design. Illustration shows sheet and towel packages; others were included in series

HONORABLE MENTION *(right)* in the Set-up Paper Box Division of the 10th annual All-America Package Competition, goes to the Sapphire Hosiery Corp., New York, for this hosiery box of compact size and with hinged lid

A ROUND METAL CONTAINER *(left)* designed as a gift package for hosiery won Top Award in the Miscellaneous Containers group for the Nisley Co., a subsidiary of G. Edwin Smith Shoe Co., Columbus, Ohio, with women's shoe stores in more than 50 cities. The package ties in with current interest in American historical and patriotic subjects

TOP AWARD *(right)* in the Transparent Bag Division of the competition went to Samson Cordage Works, Boston. Clothes line has traditionally been sold in hanks or from a reel by the hardware dealer. The new Whale Clothes Line package utilizes printed transparent cellulose bags to house and protect the 50-foot hanks

Military and Economic Defense

Wool manufacturers told of roles to be played in these two different fields

DOMINATED BY DEFENSE PROBLEMS, the 76th annual meeting of the National Association of Wool Manufacturers was held Feb. 19 at Hotel Commodore, New York. The military side of defense was represented by Brigadier General C. L. Corbin, Quartermaster Corps, U. S. Army; the economic side of defense was presented by Col. Millard D. Brown of Continental Mills, in a paper read by Arthur Besse, president of the association, in Col. Brown's absence. Mr. Besse was reelected president; Walter Humphreys, secretary-treasurer; and the vice-presidents are Franklin W. Hobbs, Moses Pendleton, Thurmond Chatham, W. V. E. Terhune and Harold J. Walter.

Arthur Besse, reelected president, N.A.W.M.

Brig. Gen. C. L. Corbin, who spoke at meeting

General Corbin was introduced as the industry's biggest customer. He spoke principally on the then-prospective bids (opened March 10 and 17) for about 6,500,000 yd. of various uniform fabrics, with deliveries principally from July to December. As background he said that QM had always lived from hand-to-mouth and that the emergency had caught them with bare shelves. It was "neck-and-neck" to get the overcoats necessary for the current winter for the trainees. In cooperation with the National Defense Council, he said, a message was sent to Congress urging appropriation so that QM could get a little stock ahead of needs, using the principles of chain-store operation.

He said that QM is still six months behind where it would like to be, that it is pushing for deliveries as fast as the industry can make them. He explained that QM wanted to play the game with the industry and be practical in its requests. On shirtings he said that the clear finish, first asked for, will not be required, and that on blends of foreign and domestic wool though they have preferences, he would consider bids on any blends. He is anxious to expedite manufacture and keep down prices.

"The QM hasn't any 'brass hats'," he concluded. "We are business men, we don't want to see a runaway wool market, and we welcome your advice."

Colonel Brown's paper on economic defense follows in part:

"In view of the chaotic situation abroad, it is but natural that Americans should be in accord as to the vital need for adequate armament preparedness. However, we may be faced with trade wars for which we are also unprepared. Uncertainty as to the outcome of epoch-making events abroad emphasizes the necessity for consideration of our economic defense. The world's indebtedness to us will be only one of our embarrassing problems. War-impoverished nations can offer only goods in payment. We might just as well quit kidding ourselves—we will never see the time when we can afford to accept payment of such vast sums in foreign merchandise.

"If this war long continues, peace will find Europe and Asia entirely inhabited by paupers living in ruins. More than ever will nations struggle to make themselves self-sufficient. However, they will need certain raw materials, foods, clothing, housing and machinery, which their domestic economy cannot supply. A few of the needed things may be obtained from each other through barter or trade. In order to obtain our gold or free exchange, the people of the Old World will slave to create surpluses for shipment to America without regard to price. Reciprocal treaties offer no solution to this problem. Lacking a flexible economic Defense Plan, living standards of Americans must decline to meet this competition. Can we continue to exist as a free people if we descend from American living standards to the European level of starvation?

"A new program should be enacted, providing flexibility of action by some Government body in order to protect our standards of living, our industry, and agriculture against foreign attacks. This body should have the power of quick, defensive or offensive action on duties, quantitative restrictions, foreign exchange regulations, trade agreements, or any other action subject to certain Congressional approval. Legislation of this kind, entitled an Economic Defense Bill, was introduced in the last Congress by Senator Vandenberg and Congressman Roy O. Woodruff (H. R. 10633—1940). It is hoped it will be re-introduced in the new Congress."

Upon recommendation of its Committee on Olive Oil Alternatives, N.A.W.M. approved an alternative oil for use in the processing of wool. This oil is a blend of one-third cocoanut oil and two-thirds mineral oil, the cocoanut oil to conform to the association specification C-1, and the mineral oil to specification P-1, as follows:

C-1. The cocoanut oil specification shall be for an edible grade; iodine value, 8-10; saponification value, 255-260; melting point (closed capillary), 75°—78° F.; color (Lovibond scale), 0.5-1.2 red; free fatty acid, 0.08% maximum; odor, neutral.

P-1. The mineral oil specification shall be for a well-solvent, refined, straight parafinic oil; flash point, 400° F. min. (ASTM D-92); viscosity at 100° F., 190-210 Saybolt Secs. (ASTM D-88); pour, 30° F. max. (ASTM D-97); color N.P.A., 2½ max. (ASTM D-155); neutralization No. 0.10 max. (ASTM D-188); saponification No. 0.2 max. (ASTM D-24); evaporation loss, 0.25 max. (ASTM D-6). In addition, the oil shall pass a light stability test, which is being prepared.

Winding Production

Calculated easily by means of chart for use with any type of winder or spooler

By RALPH L. CHISHOLM
Universal Winding Co.

THE WINDING PRODUCTION CHART reproduced on the next page was developed somewhat over a year ago by Universal Winding Co. to afford an easy method for determining winding production in pounds per spindle for 8 hr. or 40 hr. The chart has now been in use long enough to prove its value, not only for determining production on all types of winders and spoolers, but also for calculating machine efficiency when actual production for 40 hr. is known. It is believed that the following brief explanation, which has not hitherto been published, will facilitate use of the chart by mill men.

First should be noted the Comparative Yarn Table. The purpose of this table is to permit one to determine the equivalent cotton yarn count of worsted and other yarns. For example, if one wishes to determine the production of 20/1 worsted yarn, the comparative yarn table shows the equivalent cotton yarn count to be approximately 13.28. This point (13.28) is spotted on the cotton-yarn-count scale at the left of the chart. It is not necessary, however, to convert rayon or silk yarns to the equivalent cotton yarn count, as the scale at the left of the chart also is graduated in deniers. Below the Comparative Yarn Table is an Average Denier Table for silk knitting yarns. This table appeared in TEXTILE WORLD several years ago. It will be noticed that no allowance has been made for the contraction of silk due to soaking and twisting.

The next point to locate on the chart is the average yarn speed in yards per minute. This speed is easily determined on a drum winder, because the yarn speed is uniform at all times. If the speed is not already known, it can be determined by breaking the end and wrapping it around the package, and winding for exactly 1 min. (Some people wind for 2 min. or longer in order to get a better average.) The yarn is then reeled off the package until the broken place appears. From a measurement of the number of yards wound, the average yarn speed per minute for a drum winder can be easily calculated.

On a spooler or precision type of winder the spindle speed is constant, but the yarn speed increases as the diameter of the package increases. It will be necessary to determine the average yarn speed for this type of machine by averaging the starting speed with the finishing speed. The table on this page gives the average yarn take-up speeds for packages of various diameters and for the several shapes and tapers of packages that are now commonly used. The formula on which the table is based was very accurately worked out because large installations of winding equipment, such as those in rayon plants, require careful calculations for determining speed in order to get accurate production records of machine efficiency.

Suppose it is desired to find the production of 30/1 cotton yarn at an average speed of 450 yd. per min. Point *A* is spotted on the left-hand scale to represent 30/1 cotton yarn. Point *B* is spotted on the right-hand scale at 450 yd. per min. A dotted line drawn between these two points cuts the center scale (the production scale) at *C*. This gives the pounds per spindle in 8 hr. as 8.5 lb. at 100% efficiency. It also shows the pounds per spindle for 40 hr. to be 42.5 lb. at 100%.

To find the production for some other machine efficiency, it is only necessary to follow down the diagonal line at the right until one comes to the efficiency required. Thus, point *D* represents 80% machine efficiency, and the pounds per spindle is read opposite point *D*, which shows that in 8 hr. the production at 80% will be 6.8 lb., or for 40 hr. it will be 34 lb.

Some mills will find that their problem cannot be solved directly with this chart, because it does not cover a wide enough range. In the case of 8/1 cotton yarn, as an example, it does not appear on the chart. By taking 16/1 yarn, one can find the number of pounds per spindle, which, when doubled, will give the production for 8/1 yarn.

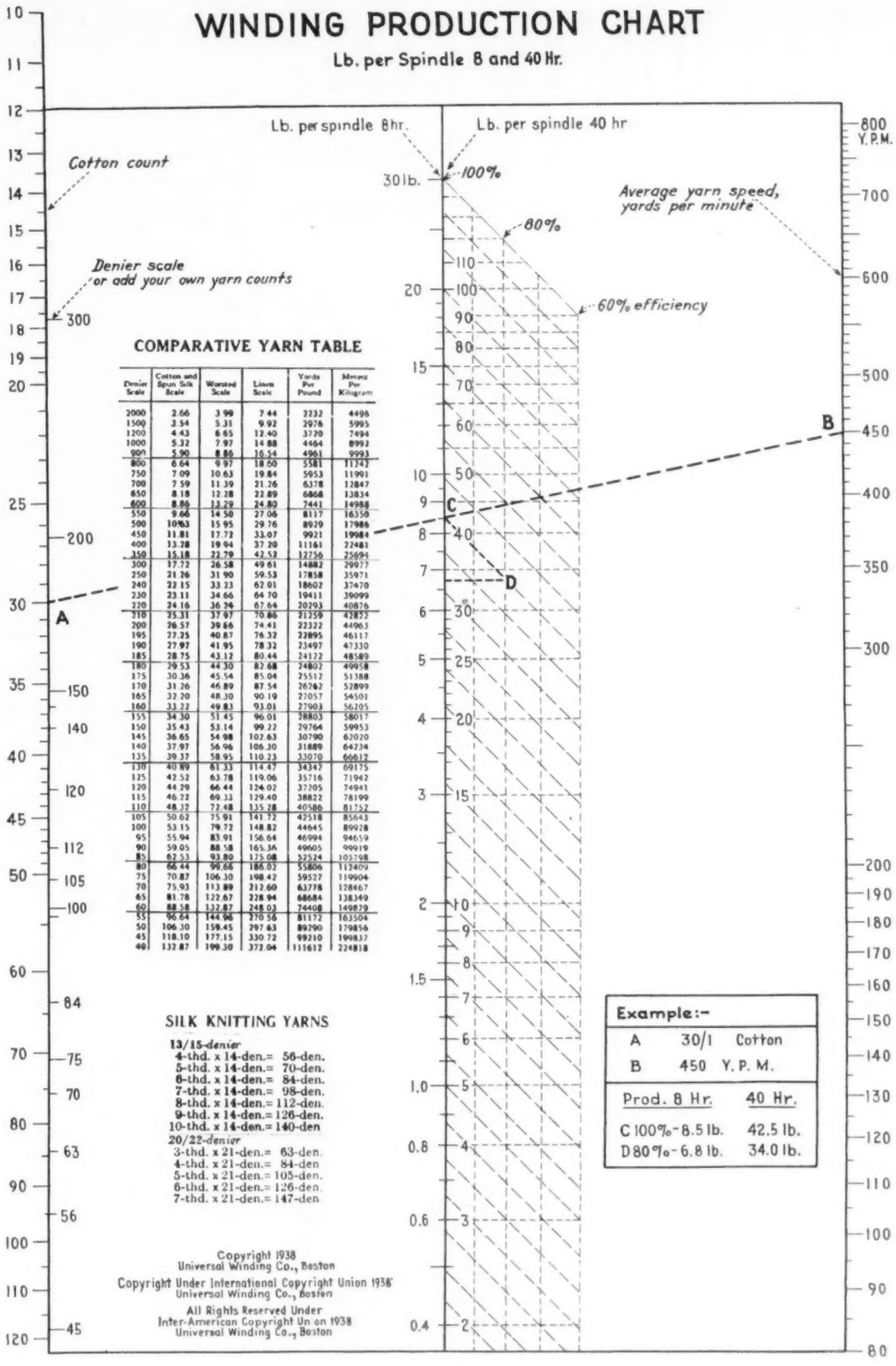
Some mills might have a spool speed that will not be shown on the chart; as an example, 1,200 yd. per min. In that case the production of 600 yd.

Average yarn take-up speeds in yd. per min. for various types of packages corrected for 6-in. traverse 2½ wind

Diameter in Inches of Full Tube or Base Diameter of Full Cone	*⅝-in. tubing, ¾⅞-in. outside starting diameter. 5° 57′ and 9° 15′ cones, ¾⅞-in. starting diameter at nose end of traverse*			*1-in. tubing, 1¼-in. outside starting diameter. 3° 30′ cones, 1¼-in. starting diameter at nose end of traverse*			*Franklin spring, 1¾-in. outside diameter of spring and stocking*		
Spindle speeds in r.p.m.	900	1000	1200	900	1000	1200	900	1000	1200
6¼	285	317	380	301	334	401	320	355	426
6	275	306	367	291	323	388	310	345	414
5¾	266	295	354	281	313	375	301	334	401
5½	256	285	342	272	302	362	291	323	388
5¼	247	274	329	262	291	350	281	313	375
5	237	264	316	253	281	337	272	302	362
4¾	228	253	304	243	270	324	262	291	350
4½	218	243	291	234	260	312	253	281	337
4¼	209	232	279	224	249	299	243	270	324
4	199	222	266	215	239	286	234	260	312
3¾	190	211	254	205	228	274	224	249	299
3½	181	201	241	196	218	261	215	239	286
3¼	172	191	229	187	207	249	205	228	274
3	162	180	217	177	197	236	196	218	261
2¾	154	171	205	168	187	224	187	207	249
2½	145	161	193	159	177	212	177	197	237
2¼	136	151	181	150	167	200	168	187	224
2	127	141	169	141	157	188	159	177	212
1¾	119	132	158	132	147	177	150	166	200
1½	110	123	147	124	138	166			

The following example shows how to correct yarn speeds shown in the table for any other spindle speed. (238.6 yd. per min. at 1,000 r.p.m. is corrected for 1,200 r.p.m.):

Example: $\frac{238.6 \text{ y.p.m.} \times 1{,}200 \text{ r.p.m.}}{1{,}000 \text{ r.p.m.}} = 286$ yds. per min. (for 1,200 r.p.m.)



Denier Scale	Cotton and Spun Silk Scale	Worsted Scale	Linen Scale	Yards Per Pound	Meters Per Kilogram
2000	2.66	3.99	7.44	2232	4496
1500	3.54	5.31	9.92	2976	5995
1200	4.43	6.65	12.40	3720	7494
1000	5.32	7.97	14.88	4466	8992
900	5.90	8.86	16.54	4961	9993
800	6.64	9.97	18.60	5581	11242
750	7.09	10.63	19.84	5953	11991
700	7.59	11.39	21.26	6378	12847
650	8.18	12.28	22.89	6868	13834
600	8.86	13.29	24.80	7441	14988
550	9.66	14.50	27.06	8117	16350
500	10.63	15.95	29.76	8929	17986
450	11.81	17.72	33.07	9921	19984
400	13.28	19.94	37.20	11161	22481
350	15.18	22.79	42.52	12756	25694
300	17.72	26.58	49.61	14882	29977
250	21.26	31.90	59.53	17858	35971
240	22.15	33.23	62.01	18602	37470
230	23.11	34.66	64.70	19411	39099
220	24.16	36.24	67.64	20293	40876
210	25.31	37.97	70.86	21259	42822
200	26.57	39.86	74.41	22322	44963
195	27.25	40.87	76.32	22895	46117
190	27.97	41.95	78.32	23497	47330
185	28.75	43.12	80.44	24122	48589
180	29.53	44.30	82.68	24802	49958
175	30.36	45.54	85.04	25512	51388
170	31.26	46.89	87.54	26262	52899
165	32.20	48.30	90.19	27057	54501
160	33.22	49.83	93.01	27903	56205
155	34.30	51.45	96.01	28803	58017
150	35.43	53.14	99.22	29764	59953
145	36.65	54.98	102.63	30790	62020
140	37.97	56.96	106.30	31889	64234
135	39.37	58.95	110.23	33070	66612
130	40.89	61.33	114.47	34342	69175
125	42.52	63.78	119.06	35716	71942
120	44.29	66.44	124.02	37205	74941
115	46.22	69.33	129.40	38822	78199
110	48.32	72.48	135.28	40586	81757
105	50.62	75.91	141.72	42518	85643
100	53.15	79.72	148.82	44645	89928
95	55.94	83.91	156.64	46994	94659
90	59.05	88.58	165.36	49605	99919
85	62.53	93.80	175.08	52524	105798
80	66.44	99.66	186.02	55806	112409
75	70.87	106.30	198.42	59527	119904
70	75.93	113.89	212.60	63778	128467
65	81.78	122.67	228.94	68684	138349
60	88.58	132.87	248.03	74408	149879
55	96.64	144.96	270.56	81172	163504
50	106.30	159.45	297.63	89290	179856
45	118.10	177.15	330.72	99210	199837
40	132.87	199.30	372.04	111612	224818

per min. can be doubled to find pounds per spindle at 1,200 yd. per min.

The chart can also be used in reverse; that is, the net machine efficiency can be determined from the actual production taken from the machine. Let us assume that the actual production of 30/1 yarn run at 450 yd. per min. was 34 lb. per spindle for 40 hr. The 100% efficiency can be quickly determined by using the chart. Below this point on the center scale we will find 34 lb., representing the actual production. The horizontal line opposite 34 lb. will meet the diagonal line coming from the 100% production at the 80% machine efficiency line. This quick method can be used for determining approximate figures and can be checked when time permits if a more accurate figure is required.

We Cut Office Costs

By adopting a new billing procedure which combines all figuring and typing

By G. W. WALKER

Vice-president and treasurer
Neuss, Hesslein & Co., Inc.

THE HOURS PROBLEM that confronts the office today has started alert business men thinking about office costs and, in turn, searching for ways and means to apply short cuts to their office procedures. The desired objective, of course, is to accomplish each week's work within a prescribed number of hours and at the lowest possible cost. Our company turned the spotlight on its office some time ago and saw possibilities there for combining separate operations and thereby reducing costs. Following through on these possibilities, we arrived at an operating condition that has, in large measure, solved the hours problem which many concerns are facing today.

A good example of what was done is found in the billing department. Here it was observed that each bill was handled three times before it was completed. First, the extensions for each item on the order were figured. Next, the heading, the item descriptions, and the pre-calculated extensions and total were typed on the bill. Finally, the figures, as they appeared on the typed bill, were checked for accuracy. This three-step procedure had two main drawbacks. It involved a lengthy, repetitive process—first of doing the figure work, and then of copying the figures on a bill. Again, with two handlings of the figures, possibilities for error existed in copying, as well as in figuring.

Investigation revealed that it was possible to combine the figuring and typing operations into one, thus eliminating an entire step in the billing routine. Further, with these two steps made one continuous operation, the error-possibility could be reduced. In analyzing the plan before we adopted it, we were certain that it would result in worth-while savings. Furthermore, we could see where the new plan would mean increased flexibility, since the equipment we proposed using was also suitable for work other than billing. Looking at it in retrospect today, we have been able to effect appreciable savings with the new plan. We feel we have a billing system which, for efficiency and economy, takes a back seat to no other. As proof of this, consider the fact that our operators write the complete bill, including all figuring and typing, in about the same amount of time formerly required for just the typing.

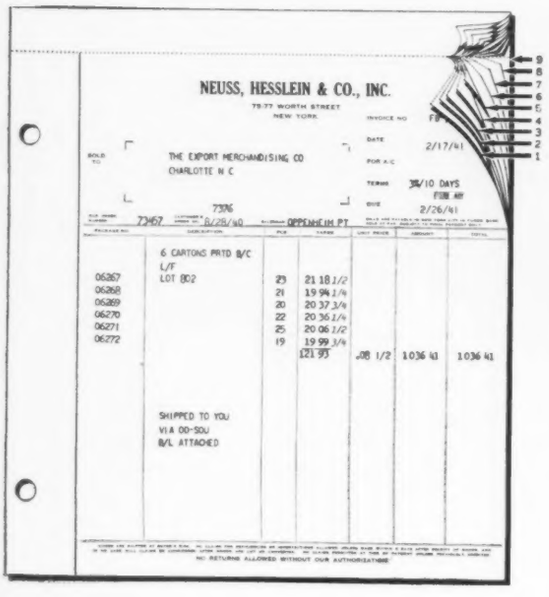
Orders turned in by Neuss Hesslein salesmen from clothing manufacturers, converters, and other customers are first checked with the stock and then are checked for accuracy of pricing.

Nine-part domestic bills are written on typewriter-computing machines, including copies for the following purposes: (1) to customer; (2) duplicate for customer; (3) statement (held by Neuss Hesslein and sent to the customer only if payment lags); (4) duplicate statement; (5) to accounts-receivable department as posting media; (6) to accounting department for figuring salesman's commission; (7) to credit department as advice of shipment; (8) filed with correspondence; and (9) to salesman.

A typical example of a domestic bill is shown in the illustration. Past performances indicate that 135 to 150 of these bills a day is a comfortable production average on the single machine used for domestic billing. Due to the length of the bills, this is a higher unit production than it would seem on the surface. Export bills run slightly longer—averaging 15 to 20 lines—and the unit production figure of the two export billing machines is correspondingly lower. A fourth billing machine is used to write invoices requesting subsidies on export shipments from the U. S. Department of Agriculture. The subsidy rate varies from 2.88 to 3.5, depending upon the class of merchandise. The billing machine multiplies weight of shipment by subsidy rate and prints the amount of the subsidy on the invoice.

The finished bill is built up in a continuous one-handling operation. All bill extensions are performed mechanically by the machine. The machine has a multiplying mechanism which—as the two factors are entered on the keyboard—multiplies one by the other. This direct multiplication represents a sizeable saving on time over repeated-addition methods of machine multiplying, to say nothing of the tremendous advantages in speed and accuracy it offers over manual methods. Fractions, which occur in nearly every line of every bill, are handled as easily as whole numbers. Previously, it was necessary to use decimal equivalents of the fractions for figuring purposes, and then convert into fractions again before typing them on the bill.

The present system also provides better control. If an error should be made, it can be detected before it goes all the way through. Under the old system, this was not true, with the result that frequent misunderstandings occurred. Finally, elimination of the extra billing step has enabled the same billing personnel to turn out more work than formerly. In view of a 25% increase in volume during the last four years, this has been an important advantage.



NEUSS, HESSLEIN & CO., INC.
78-72 WORTH STREET
NEW YORK

SOLD TO: THE EXPORT MERCHANDISING CO
CHARLOTTE N C

INVOICE NO F
DATE 2/17/41
FOR A/C
TERMS 3%/10 DAYS
DUE 2/26/41

7376
73467 8/28/40 OPPENHEIM PT

	6 CARTONS PRTD B/C L/F					
06267	LOT 802	23	21 18 1/2			
06268		21	19 94 1/4			
06269		20	20 37 3/4			
06270		22	20 36 1/4			
06271		25	20 06 1/2			
06272		19	19 99 3/4			
			121 99	.08 1/2	1036 43	1036 41

SHIPPED TO YOU
VIA OD-SOU
B/L ATTACHED

NO RETURNS ALLOWED WITHOUT OUR AUTHORIZATION

Courtesy Burroughs Adding Machine Co.

Example of nine-part domestic bill (at left) made in one continuous operation in billing department of Neuss Hesslein & Co., cotton goods commission merchants; photo above shows typewriter-computing machine used for this purpose

The Fabric Forecast

Rayons for Fall 1941; authoritative data from group of recognized experts

OUTGUESSING THE MARKET is a ticklish undertaking in the textile industry—in any branch at any time. Right now, trying to forecast fabric trends is more ticklish than ever, with European centers of style inspiration removed from the scene and with so many other factors which have a bearing on the subject hanging in the balance. Probably as familiar with market trends as anybody, and as able to make accurate forecasts, are the fabric development men of leading rayon producers. It is their business to know what types of fabrics are going to be popular, and to know it as soon as possible. We asked them to share that knowledge with TEXTILE WORLD's readers, and they agreed. The following data represent the combined thought of nine fabric development experts in six rayon producing companies, as listed in the accompanying panel.

Hands of rayon fabrics for Fall, 1941 will range from soft, woolly types to those of more crisp nature, which simulate worsted cloths. Weaves will range from plains, through both conventional and steep twills, and vertical and horizontal ribs, to small dobby effects. Materials used will run the entire gamut from all filament to all spun, with stops at all the way stations one can think of: combination yarns of the usual sorts; plies of an end of spun with an end of filament; yarns containing slubs which give surface interest to the fabrics in which they are used; yarns made of coarser—for example, five denier—staple which gives a more crisp hand; and blends galore of acetate with viscose in a wide range of percentages, and of acetate or viscose with wool, again in varying percentages.

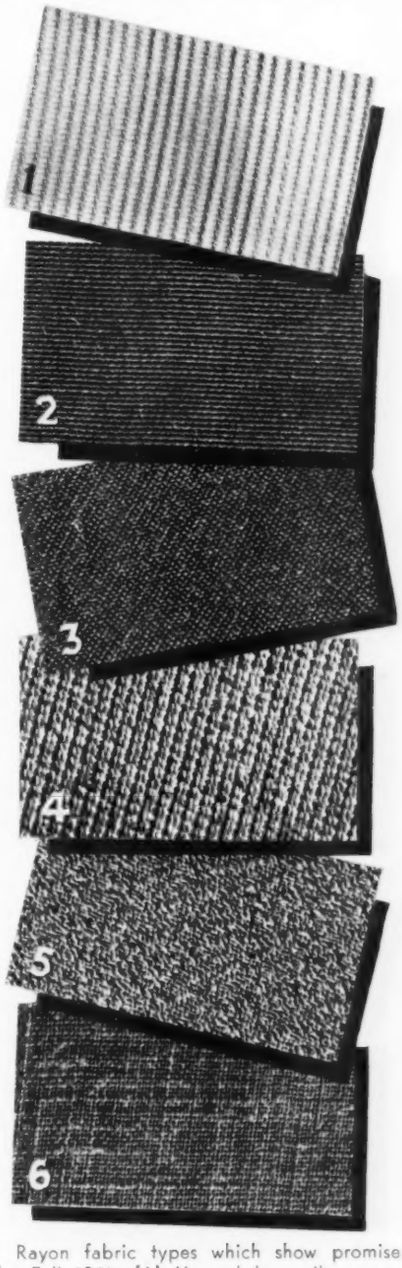
To get into a little more detail on the subject of the hand and appearance of fabrics, a large majority of the newer rayons will be definitely designed to look like wools. More depth and bloom are generally sought. Sheers, suitings, crepes, and others of a similar nature will strive for crisp, worsted-type hands. Flannels and many other all spun numbers will lean to the woolly side.

In the matter of weaves, ribs seem to hold great promise of popularity. Both up-and-down and crosswise effects, as illustrated in 1 and 2, seem good, and both heavy and fine ribs will be seen. Twills will also come in for a share of popularity, especially in spuns. Simple two up, two downs (3) will be augmented by more fancy weaves, such as two- and three-line steep twills, of the type shown at 4, and others. Small dobbies and tricky over-all patterns, of the general type shown at 5, and knit-type weaves, will be in evidence. It is pointed out that the dobby weaves are for the purpose of adding interest to the fabric, and must not form such striking patterns that they distract attention from the fabric itself. There will, of course, be the usual complement of plain weave fabrics, in which interest is obtained by the yarns and combinations of yarns used, by use of yarns containing slubs—as shown at 6, by introduction of stripes and checks, etc.

As regards the question of materials used, it is well nigh impossible to set down on paper what are the outstanding trends, because there are so many and no one seems to tower very much above the others. Increasing use of acetate rayon in spun blends appears to be a rule. Percentages range from as little as 20% acetate in lower price goods, up to as much as 60% in more expensive fabrics. Inclusion of a percentage of wool in blends is also thought highly of.

Another developing trend is use of yarns comprising an end of either spun or filament acetate twisted with an end of viscose crepe. The resulting yarn may be used for both warp and filling; sometimes the spun acetate-viscose crepe is used warpwise, with the filament acetate-viscose crepe utilized in the filling, or vice versa. In addition, some fabrics feature all-filament yarn one way, and all-spun in the other direction. And, of course, all-filament combination-yarn fabrics, 100% filament or spun viscose cloths, and 100% filament or spun acetate fabrics retain their perennial popularity.

Both bright and dull rayons will find use, but the trend is toward the duller types, as they aid in obtaining the desired woolly appearance. They also allow greater latitude in designing, since longer weave floats can be incorporated without appearance of shiny spots.



Rayon fabric types which show promise for Fall 1941: **(1)** Up-and-down rib weave, dull filament acetate rayon, both warp and filling; **(2)** Crosswise rib weave, dull acetate rayon warp, bright spun acetate rayon filling; **(3)** Twill weave, blend of bright and dull viscose rayon, both warp and filling; **(4)** "Cavalry twill" weave, showing war effect on fabric styles, dull spun acetate rayon, both warp and filling; **(5)** Dobby weave, spun acetate rayon twisted with viscose rayon crepe, both warp and filling; **(6)** Plain weave slub effect, spun blend of 60% viscose rayon, 40% acetate rayon, both warp and filling.

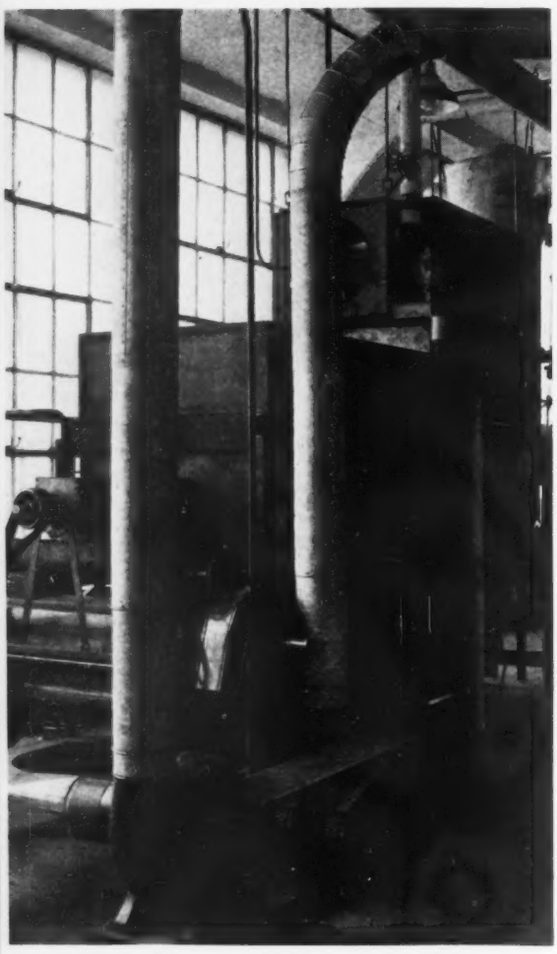
★ ★ ★

Collaborators on this article include Carl C. Mattmann, of A. M. Tenney Associates, Inc.; Alexis Sommaripa, Carl Taber, Paul Stocker, and Waldemar Kuenzel, of E. I. du Pont de Nemours & Co.; Charles A. Lasky, of Celanese Corp. of America; Pierre Sillan, of American Viscose Corp.; John Van Laer, of American Enka Corp.; William Six, American Bemberg Corp.

Elimination of Looms and Spindles

Achieved in production of carpeting; method has interesting potentialities

By HOWARD P. GALLOWAY
Assistant Editor, TEXTILE WORLD



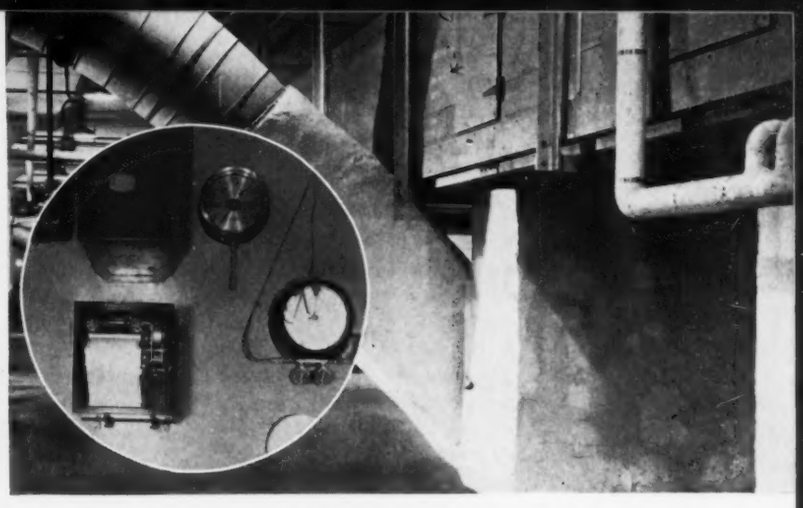
Stock-dyed wool roving from cards ordinarily used in production of face yarns for carpets is fed to a Taylor-Stiles fiber cutter, chopped into predetermined lengths ranging from 5/32 in. to 1/2 in., then blown into this mixing machine. The mixer consists of a large chamber with fans and a revolving wire cage which acts as an agitator and thoroughly mixes the flock. Jute, rayon, and other materials can also be used.

JUST ONE YEAR AGO in its February, 1940, issue TEXTILE WORLD stated "ten years of technological turmoil are ahead. Fabrics will be produced without spinning, weaving, or knitting. Almost unbelievable to anyone steeped in conventional methods of textile manufacture are the simplicity of these processes, the high output per machine and per unit of time, and the possibities they offer for reducing costs."

The floor covering field seems particularly to lend itself to this type of development, and experiments looking toward substitution of other methods of fabrication in place of spinning and/or weaving have taken place over a period of years. In its issue of March 21, 1931, TEXTILE WORLD described a new type of carpet produced by inserting pile fibers vertically in a rubber base, by means of a process developed by Lea Fabrics, Inc., Newark, N. J. Another method similar in aim, which was the subject of an article in the April, 1940, issue, produces pile fabrics by applying cut fibers electrostatically to a backing fabric covered with latex or other suitable adhesive. Fabrics for automotive purposes, using this process, have been developed by Behr-Manning Corp., Watervliet, N. Y.

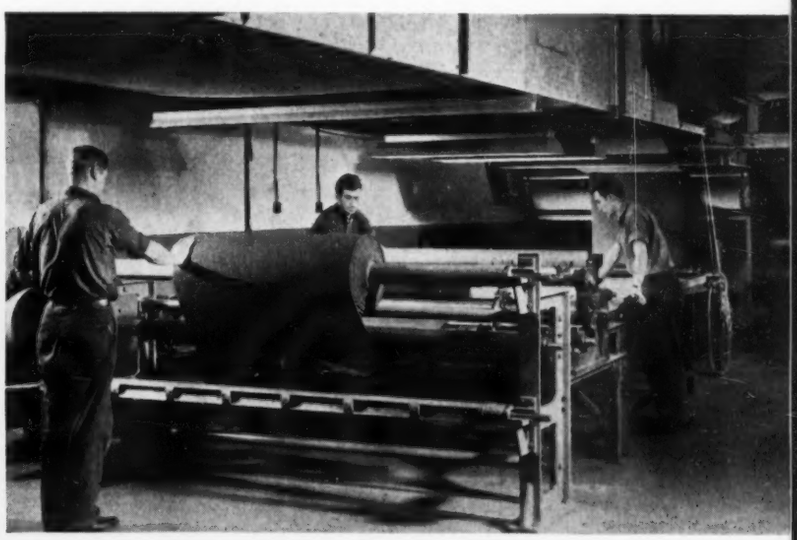
This article is a word and picture story of what has happened at Mohawk Carpet Mills, Amsterdam, N. Y., where experiments along precisely the lines quoted in the opening paragraph have recently been successfully completed. It is interesting to note that, although

Here actual production of carpet begins. The roll of burlap shown at right, with one side rubber coated to a thickness of up to 0.045 in., is drawn into the machine rubber side down, and the series of nozzles in front of the stooping operative gives the uncoated burlap face a coating of naphtha rubber cement. The burlap then enters the flocking chamber, center. Flock, which has been blown from the mixer to a bin, is spread in controlled amounts across the width of the machine, then allowed to sift down to the cement-coated burlap through openings. A suction device next draws up and returns to the bin all flock which has not become lodged in cement. The "raw" carpet is then drawn out of the chamber and carried up a lattice conveyor to a dryer



This is the 125 ft. long dryer through which the carpeting passes. The dryer is divided into two sections, the first maintained at about 310°F., the second at about 260°F. Three circulating fans control flow of warm air through dryer. Approximately 22 min. is required for the carpet to travel from one end of the dryer to the other. During drying, the rubber backing expands to over 1/4 in. in thickness and becomes cushion-like and springy; also the flock becomes firmly cemented in place. The dryer is a product of J. O. Ross Engineering Corp. Inset shows dryer controls supplied by Foxboro Co., Brown Instrument Co., and Monitor Controller Co. In case of emergency the entire machine can be stopped by pressing a single button

Protection against fire at any point in the dryer is afforded by this equipment. Eleven cylinders containing fire extinguishing chemicals under pressure are connected to the dryer at various points and controlled in such a manner that in case of fire chemicals feed into every part of the dryer. Equipment was supplied by Walter Kidde & Co.



After drying, cloth is cooled, brushed, lightly steamed and oil sprayed, inspected, trimmed along edges, and wound on rolls. The machine can handle carpeting up to 84 in. in width; top production speed is approximately 10 ft. per min. To make rugs, carpeting can be seamed or sealed with latex. Entire process is controlled by National Automotive Fibres, Inc., Detroit Mich.

the company is itself a large spinner and weaver, the management has persevered with experimental work on production of fabrics made without either spinning or weaving. Results to date, and future possibilities, would seem to check the correctness of their decision.

The products presently in production or projected represent increases in markets reached by Mohawk, rather than displacement of products already in the mill's line. The first product made by the new method, floor covering for automobiles, has considerably passed the 10,000 yd. mark since the first piece came off the machine five months ago. Next in line, it is expected, will be carpets and rugs for domestic use; these, according to present plans, will probably be launched late in 1941, and will sell at but a fraction of the price of similar products made by conventional methods.

The close-up illustration at the top of the opposite page shows a sample of the completed carpet, trade-marked Moh-Nat. Note the upright position of pile, and spongy rubber backing said to obviate use of cushioning pads and to minimize danger of slipping. Fabric has been tested in actual use in automobiles over a two-year period, and is reported to wear excellently. Experimental rugs in domestic use are said also to be giving excellent service.

Where the new method will go from here nobody yet knows. In the imagination of the mind's eye, it seems to have many possibilities. Each of these will of course require careful exploration. But, if Mohawk's experience can be taken as a guide, such exploratory work will pay out well in new markets, lowered production costs, and increased production rates.

In the accompanying pictures and captions, then, is a challenge to all progressive textile manufacturers — the stey-by-step story of how Mohawk's new no-spinning, no-weaving carpet is made.

Costly Soot Stains Stopped

Precipitrons installed in southern mills remove dirt, dust, and smoke from air

OVER A SMOKY, INDUSTRIAL CITY, a cubic foot of air may contain from 200,000 to over 4,000,000 particles of dust, smoke, dirt and soot. This dirt and smoke concentration in the air presents a problem that is common to many textile mills, causing contamination of work in process and finished goods by the small, black particles of soot and smoke which permeate the plants. Within the last year or two, however, several mills have solved this problem by installation of an electrostatic air-cleaning device, known as the Precipitron.

The Precipitron consists of two major parts—the cell and the power pack. The cell is composed of two sections, an ionizer and a collector. The ionizing section is composed of fine tungsten wires and metal rods which are grounded. A current of 13,000 volts d-c. is applied between the wires and rods, creating a strong electrostatic field between them. As the air to be cleaned passes between the wires and the rods every particle of foreign matter receives a positive electrostatic charge. The air then passes into the collecting section of the cell. Here are located parallel collector plates, charged with 6,000 volts d-c. and spaced $\frac{5}{16}$ in. apart. The positively charged particles are attracted to the negative plates. A light oil film on the collector plates holds the particles down once they are collected. To clean the plates, it is merely necessary periodically to wash them down with a water hose. When necessary, fresh oil is applied to the plates with a spray gun.

The power pack is self-contained in a metal cabinet. Its function is to step up the incoming 115 volts a-c. to the required d-c. voltages. Doors on the power pack and the cells are equipped with safety interlocks which break all electrical circuits when the doors are opened.

Description of typical installations of Precipitrons follow.

Smoke Problem Solved

By OLIVER H. KING
Chief Engineer, Dixie Mercerizing Co.

BEFORE PRECIPITRONS WERE INSTALLED at Dixie Mercerizing Co., the smoke and soot problem was acute. There are over 400 industrial establishments in and around the city of Chattanooga, and the majority of these employ soft coal as fuel. It was impossible some days during smoky winter weather satisfactorily to handle or wind yarn which was bleached or dyed in light shades.

At Dixie, there are three points during processing where smoke can ruin or seriously affect the clean, light-colored yarns. These are: (1) the mercerizing drying operation, (2) the package drying operation, and (3) the bleached and dyed winding operation.

In the package drying operation heated air is forced through the package, from the inside out. Dirt and smoke particles in the air blown through the package collected on the yarn. On particularly smoky days as much as $\frac{1}{2}$ to $\frac{5}{8}$ in. thickness of yarn near the inner core of the package was blackened to a degree where it was unusable. Such blackened or dirtied yarn represented quite a considerable financial loss, as most times it had to be scrapped; even if salvaged by dyeing to a darker color, extra operations and cost were involved.

In the bleached and dyed winding operation, due to the high speed of rotation of the cones, dirt in the room air was kept in constant suspension, and the bottoms and tops of the revolving cones of yarn collected a high percentage of the dirt and smoke particles surrounding them.

As the dirt and smoke problem became more acute, it was realized that the objectionable dirt must be filtered out of the air used in these operations. Accordingly, mechanical filters were put in the air systems. Although the larger dirt particles were eliminated, the smoke particles were not removed because they were too minute in size, and the yarn still turned up dirty on smoky days.

The next step was to install Westing-

Photo by Coxe

Checking ionizing assembly on one of Precipitron units cleaning air for package dryers at Dixie Mercerizing Co.; insert shows power pack (door removed)

house Precipitron units in the forced-air systems feeding the mercerizing dryer and the package dryers. A little later another unit was installed to clean the air for the bleached and dyed winding room.

The Precipitrons and blowers for the package drying air are located in the basement under the drying ports. There are two blowers, and the two banks of Precipitrons. One has a capacity of 4,800 c.f.m.; the second, 6,000 c.f.m. The fan capacity back of both these units is 3,600 c.f.m. so that they are both working under their rating, raising the efficiency of cleaning.

Units for the mercerizing dryer are located on the same floor as the dryer. There are two units, each having a capacity of 10,000 c.f.m. The air from one is fed into one half of the long dryer, and the air from the second unit is fed into the other half. Both units are worked at 100% of their rating, giving their rated cleaning efficiency of 90%.

To save the cost of heating outside air to the proper temperature for the drying operation, air is drawn from inside the plant and is recirculated through the dryers. The only place where outside air is used is in the system used to clean air for the bleached and dyed winding room. Here the Precipitron is mounted on the outside wall of the winding room, pulling some of its air from the outside atmosphere. Even here in winter time, part of the cleaning air is recirculated. This unit is rated at 7,200 c.f.m. at 90% cleaning efficiency; but to get the ultimate in dirt removal, only 6,000 c.f.m. is being passed through it, raising its efficiency to somewhere near 95%.

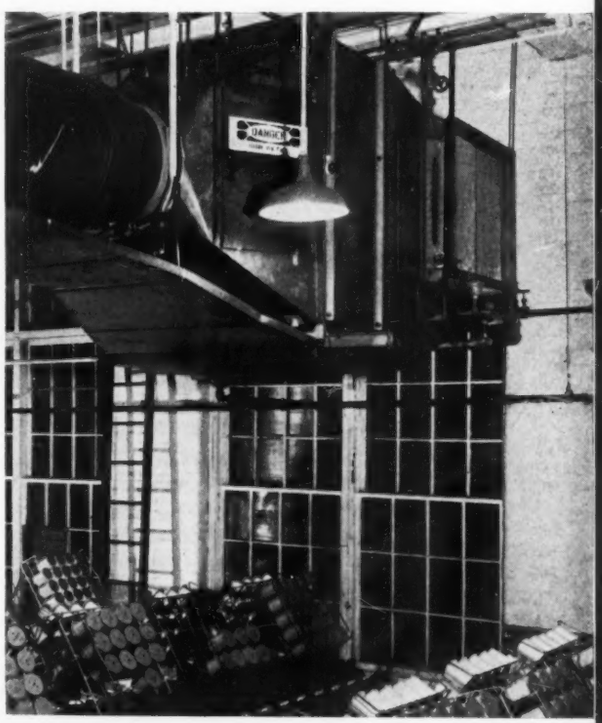
The Precipitrons did their job well. On the mercerized drying operation, clean yarn is realized even on the smokiest winter days. In the package drying operation the number of contaminated packages has been reduced almost to zero. Winding operations on any shade of yarn can be scheduled to fit in with our production needs, with no concern as to outside weather conditions; this alone has been an invaluable aid in speeding up and smoothing out production. Financially, the Precipitron has benefited in still another important way. It has made a deep cut in contaminated or dirty yarns produced, and has cut down most of the re-processing that was essential before.

The mechanical filters are still employed ahead of the Precipitron in the recirculating system to remove the cotton lint which is prevalent in the inside plant air. This keeps the lint off the cells and leaves the Precipitron free to perform its job of taking out the tiny smoke particles.

No concrete record has been kept of the actual money saved by the Precipitrons since their installation in 1939. From the information available, however, it is safe to assume that, under the continuance of present operating conditions, the Precipitrons will completely pay for themselves at the completion of two-years' operation.

decreased the labor involved in keeping the machinery clean. Whereas formerly eighteen people were required during the winter months to keep the machinery in the crepe departments clean, the same job is being done this winter by four people. It is thought that practically no cleaning will be necessary during the summer months.

Thus far, eight Precipitron trunks have been installed in one of the crepe-twisting rooms, each equipped with six cells and designed to handle 5,000 c.f.m. of air at 90% efficiency. Each trunk contains three 36-in. cells guaranteed to handle 600 c.f.m., and three 18-in. cells guaranteed to handle 300



One of eight Precipitron units installed in rayon-crepe twisting department of a large southern mill; note special housing added to Bahnson duct already in use

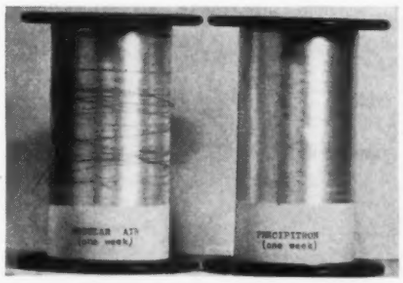
c.f.m. Bahnson ducts, formerly equipped with mechanical filters were modified to accommodate each Precipitron unit.

The mill reports that maintenance of the Precipitron is simple and inexpensive. One or two units are kept on hand to replace those which may have an occasional broken ionizing wire. At present the mill has a schedule of washing the plates down with water every two weeks and spraying them with adhesive oil every second wash-down. Each time the unit is cleaned a visual inspection is made of the ionizing wires. One man cleans and oils a duct in two hours. Frequency of cleaning will be much less in the warmer months when the air is not so dirty.

Soiling of Product Avoided

By WILLIAM G. ASHMORE
Southern Editor, TEXTILE WORLD

TO SOLVE A serious air-cleaning problem, a large southern mill, located in a highly industralized area where a great deal of soft coal is burned, recently began the installation of Westinghouse Precipitrons in its twisting departments. Installation of these devices has now been completed in one twisting room, while another twisting room is still equipped with ordinary mechanical air filters. The accompanying photograph of the two bobbins illustrates how effectively the electrostatic air cleaners prevent soiling of the yarn. The bobbin of rayon crepe yarn at the left was allowed to run with a loose end for one week (144 hrs.) in the room equipped with mechanical filters; the bobbin on the right was allowed to run in the same manner and for the same length of time in the room equipped with Precipitrons. The loose end of yarn and the top of the bobbin on the left are covered with a layer of black, greasy soot, or dirt; the yarn and bobbin on the right are perfectly clean. Not only has the installation of Precipitrons greatly reduced the percentage of soiled yarn and crepe fabrics, but it has also



Spools allowed to run with loose ends for 144 hr. in twister rooms; left, with mechanical cleaners; right, Precipitron cleaned

Mercerizing at Union Bleachery

Special drive and other improvements result in greater uniformity of work

BETTER QUALITY WORK and increased efficiency in mercerizing heavy cotton fabrics have resulted from a special drive and other improvements applied to the mercerizing process at Union Bleachery, Greenville, S. C. Features of the installation are: (1) goods enter the mercerizing bath partially wet; (2) dancer roll between caustic padder and tenter has been obviated by use of a variable-speed drive which keeps warp tension constant and prevents loss of yardage through shrinkage; (3) width of goods is under more nearly complete control during mercerization; and (4) machines comprising mercerizing range can be operated singly or together from one point. Machinery arrangements and improvements were worked out by the supervisory force and plant engineer of Union Bleachery. Reliance Electric & Engineering Co. designed the drive and installed the electrical equipment.

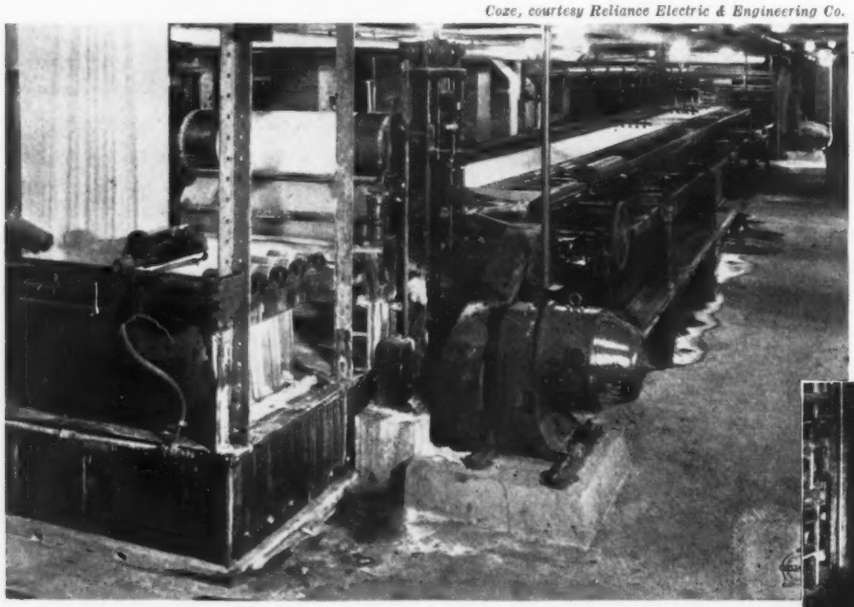
Independent of the mercerizing range proper is a water mangle which gives the goods an extra washing and squeezes out most of the residual moisture. A J-box between the water mangle and caustic padder permits an accumulation of goods so that mercerizing can continue while machines behind the range are shut down for sewing ends, etc.

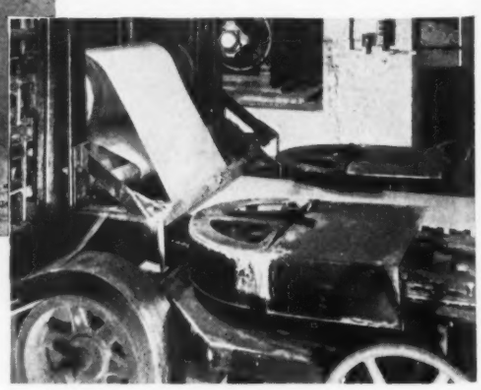
The mercerizing range is shown in the accompanying illustration. Goods leave the J-box partially wet and enter the mercerizing bath in the same condition. Adjustable immersion rolls submerge the goods in a strong caustic solution for a predetermined length of time, after which they pass over a curved rubber spreader roll and enter the padder rolls. Top and bottom rolls are steel, with drive from bottom roll. Possible marks caused by nicks on the middle rubber roll are kept from repeating against the second steel roll by a small guide roll which staggers such marks so they are smoothed out.

As the goods come off the top padder roll, they pass under a directional roll and enter the tenter-frame clips within the space of a few inches. Elimination of the dancer roll and weights normally used at this point to maintain tension is particularly advantageous, because distance the cloth travels under no width control is reduced from 6 or 8 yd. to a few inches. The goods travel for about 30 sec. on a Marshall & Williams tenter before reaching the first spray. Wet tenter clips are blown off by means of a special blower before they reach the incoming goods. The goods finally pass through a countercurrent washer.

Elimination of dancer roll and control of the warp tension were made possible by employing a variable-voltage, a.c. drive developed by Reliance Electric & Engineering Co. for this purpose. The plant's 550-volt circuit runs the control set, which, in turn, operates a 10-hp. gear motor on the padder, a 25-hp. motor on the tenter, and a 10-hp. gear motor on the washer. V-belt transmission is used between motors and machinery. All motors have special insulation on windings to guard against caustic fumes, moisture, and heat. These three motors are synchronized by a master push-button station located near the padder. The operator can select any desired speed between 20 and 90 yd. per min. by means of a master rheostat. Instruments indicate the speed and tension. The tenter is the lead or reference machine. Separate-adjustment vernier rheostats regulate the relative tension between the padder and tenter, or between the tenter and washer. Once set for a certain type of goods, the tension rheostats are not altered even though the range is started, stopped, or run at various speeds. Whenever uneven tension occurs in the cloth, the series windings in the follower motors cause these motors to vary slightly in speed according to the load.

Coze, courtesy Reliance Electric & Engineering Co.





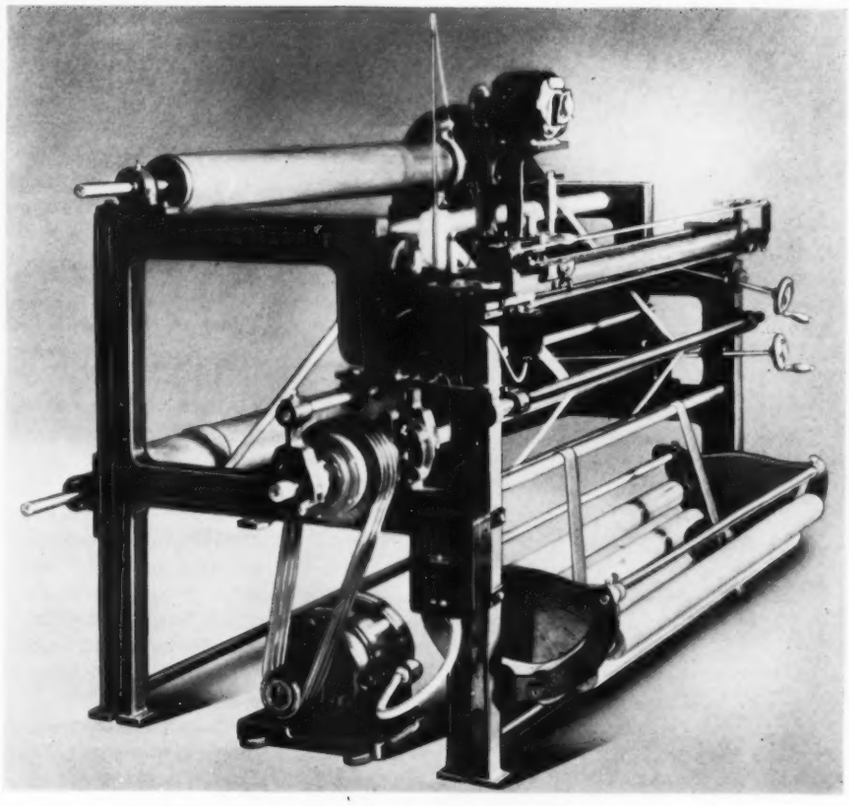
Padder, tenter, and washer of mercerizing range at Union Bleachery are driven by synchronized motors, controlled separately or together from central point; right, variable-speed drive which maintains uniform warp tension, obviating dancer roll between padder and tenter

TEXTILE EQUIPMENT NEWS

Duplex Sewing and Winding Machine

Announcement of a new heavy, high-production duplex sewing and winding machine has been made by Curtis & Marble Machine Co., Worcester, Mass. In this machine, which is for supplying rayon fabric from large-diameter rolls to automatic shears, the rolls of cloth coming from the loom are placed either in cradles, sockets, or forks, as desired. The ends of cuts of cloth are joined together, and a large roll made up on one of the two winding rolls. At the same time a large roll of cloth previously made up on the other winding roll is fed to the shear.

The new machine will make rolls as large as 38 in. in diameter. A heavy-duty clutch and a powerful brake are used for starting and stopping the machine. Winding rolls are equipped with individual devices for regulating tension on the roll of cloth as it is fed into the shear. Individual clutches are used on each of the two winding rolls. The sewing-machine head is driven at a speed higher than that previously attained.



Duplex sewing and winding machine (Curtis & Marble)

Filling Mixing on Automatic Looms

To overcome one of the inherent limitations of 4x1 box automatic looms; namely, the necessity of weaving two picks of filling consecutively from each bobbin, Crompton & Knowles Loom Works, Worcester, Mass., have developed a new filling mixing mechanism. By means of this device it is said to be possible to weave automatically a single pick from three, four, or five shuttles consecutively, thus mixing the filling and reducing to a minimum the possibility of producing streaky cloth due to filling uneven either in size or color. The mechanism will be shown in operation at the forthcoming Southern Textile Exposition, attached to a 4x2 box, W3 woolen loom.

The manufacturers point out that a W3 Convertible loom, equipped with the new device, allows the following weaving combinations: (1) 4x1 box automatic; (2) 4x4 box non-automatic, pick and pick; (3) 4x2 box automatic, for single picks of the same yarn consecutively from three, four, or five shuttles, for filling mixing; (4) 4x2 box automatic, for single picks of the same yarn from three shuttles, for mixing filling, and also an occasional single-pick overplaid—in this case, when the shuttle carrying the single pick of overplaid returns to the four-cell end of the lay, all harnesses are dropped and the pick floats on the face of the cloth; (5) 4x2 box automatic, for single picks of the same yarn from three shuttles, for mixing filling, and also an occasional single-pick overplaid of two different colors; and (6) 4x2 box for 1x1 box automatic single-shuttle operation, drawing bobbins from all four cells of the magazine.

Up to the present, the filling mixing mechanism is available only for W3 woolen looms.

New Lockstitch Machine Features Automatic Lubrication

Announcement of a new automatically lubricated lockstitch sewing machine has been made by Willcox & Gibbs Sewing Machine Co., 214 W. 39th St., New York. The system embodied in the machine provides centralized lubrication by means of an automatically metered feed to each bearing, according to its individual needs. Each bearing is served by an individual meter unit. The lubricator reservoir, which includes a forced-feed pump device, incorporates a rotating gear mechanism which governs the flow of oil, under pressure, direct to the units.

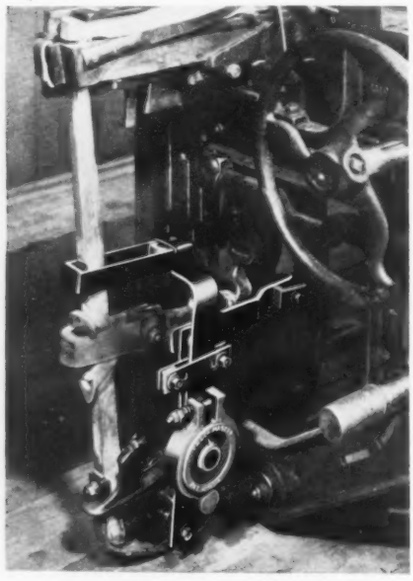
An important feature cited is the absence of drip or drainage in the system; this is said to eliminate the danger of fabric spoilage through oil contact.

Stainless Steel Surface Hardening Process

A new method for surface hardening stainless steel has been developed jointly by Industrial Steels, Inc., Cambridge, Mass., and Drever Co., 750 E. Venango St., Philadelphia. The process has for its aim to combine corrosion resistance, specific toughness of core, and a surface of predicable hardness that can be lapped, ground, or polished. The Drever-Industrial process is said to be applicable in many instances in the textile industry where excessive abrasion resistance and corrosion resistance are desired, and to have shown very favorable results on parts such as thread guides, ring travelers, spinning

rings, forming trumpets on roving frames, etc. Numerous other applications are expected to be developed.

Hardening is accomplished by treating the material with ammonia vapor which has first been activated in a special ionizer. The length of time of treatment controls the depth of the hardened case. After the stainless steel has been surface hardened, its physical characteristics in regard to tensile strength, elongation, yield point, impact value, and reduction of area, are said to remain approximately the same as in the original material, but its surface hardness has been vastly increased. Hardnesses up to 1050 Vickers Brinell are said to be secured.



Device for controlling picker-stick movement (Dodenhoff)

Picker-Stick Checking Device

To eliminate check straps on looms, W. D. Dodenhoff Co., Greenville, S. C., has announced the Check-Master, said to operate on the same principle as a brake drum. It is designed to give absolute control of picker-stick movement, and check the shuttle with precision and accuracy. Attachment to any type of loom is said to be easy and to involve no drilling of holes.

Advantages claimed are elimination of check-strap maintenance and adjusting problems, and production of more uniform fabrics.

Slitter and Rewinder

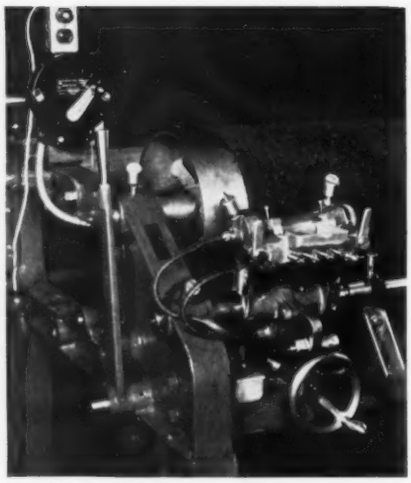
Recently announced by Johnstone Engineering & Machine Co., Downington, Pa., is a new slitting and rewinding machine said to be applicable to a wide range of fabrics including burlap, surgical gauze, velvet, bias tape, rubberized fabrics, etc. Slitter units can be supplied to cut straight, pinked, or special undulating edges. Standard machines take rolls 32, 42, 52, and 62 in. in width. Among features of the new machine cited are use of ball or roller bearings wherever possible, use of tool-steel slitter levers for added protection against breakage, and incorporation of quick-acting and responsive clutch and brake.

Pattern Towel Cutter

An apparatus for cutting pattern towels has been announced by Sjostrom Machine Co., Lawrence, Mass. It is claimed that production is increased about four times through use of the new machine. The operator stands in one place, and the correct length of toweling is fed past him and comes to a stop through use of an electric eye. The operator cuts, the cut towel is carried away by conveyor belts and, by the time the operator gets his knife or scissors back in position, the next towel is waiting for him. Meanwhile, the first towel has been carried along the conveyor belt and stacked over a bar by means of an air doffer.

Production of the machine can, it is said, be maintained at the same level on long towels as on shorter ones. A variable speed device with which the machine is equipped is simply speeded up when longer towels are run.

Production figures cited for the new machine, either on huck or terry towels, are 45 cuts per min., or more than 200 doz. per hr.



Closeup of selvage and back marking machine (Superior)

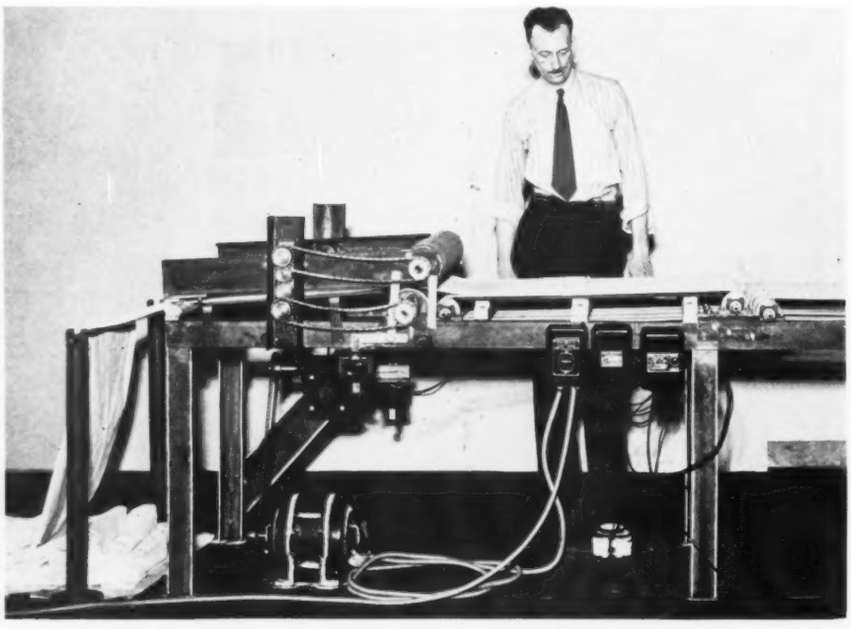
Cloth Marking Machine

Superior Marking Machines Co., 45 Lispenard St., New York, has developed a selvage and back marking machine designed to produce raised printing on fabrics. This process can produce trademarks in white or colors, and it is stated that there are no dry transfers required.

Machines already installed are operating at speeds ranging from 30 to 120 yd. per min., according to the manufacturers.

Gray Goods Identifying Ink

For identification of gray goods to differentiate between production of various shifts, different lots, etc., United States Testing Co., Inc., Hoboken, N. J.,



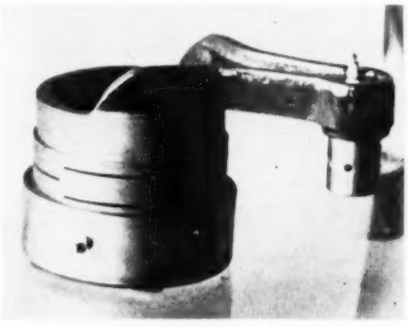
Cutter for pattern towels (Sjostrom)

has developed a fugitive stamp pad ink, known as Stamptex.

Stamptex is brushed on to an ordinary stamp pad and then simply applied to the cloth by means of a rubber stamp. It can be used on both woven and knitted goods, including hosiery. The ink is said to be suitable for use on fabrics composed of silk, wool, cotton, viscose rayon, and cellulose acetate rayon; to be thoroughly fugitive and readily removed by ordinary scouring treatments; and to eliminate many of the disadvantages of former gray goods identification methods. The ink is available in seven colors.

Improved Eccentric Cup and Strap

Barker Comb & Rub Co., Souderton, Pa., has introduced an improved eccentric cup and strap for its condensers. A new floating sleeve bearing is said to distribute wear over double the surface, and to make starting easier.



Improved eccentric cup and strap (Barker)

The sleeve is a cast-iron cylinder section with wall thickness of .1 in.; horizontal slots are provided to assure proper lubrication. The sleeve is not fastened to either cups or strap, but is free to float and maintain quiet operation and even wear.

The manufacturer states that the new eccentric cup and strap can be substituted for former types without changing the condenser motion or its operation. Sleeves are available in oversizes for taking up wear in cup and straps when necessary.

Useful Accessories for Textile Mills

A Mazda fluorescent lamp of 100 watts has just been announced by the Lamp Div. of Westinghouse Electric & Mfg. Co., Bloomfield, N. J. Allowing greater mounting heights, it is said to reduce the size and number of fixtures necessary to supply a given amount of light. Rated initial output is 4,400 lumens and rated life is 2,000 hr.; it is 60 in. long, $2\frac{1}{8}$ in. in diameter, and is available in the 3,500° white color.

To utilize the new lamp, a new open-end twin-lamp luminaire has been especially designed. Two reflector types provide a choice between totally direct and diffused, or semi-direct, illumination.

Head screw wrenches of a new type manufactured by Snap-on Tools Corp., Kenosha, Wis. are available for $\frac{3}{32}$-in. and $\frac{3}{8}$-in. square drive handles, and can be used on any type of socket wrench handle in these two series; they are said to be easily usable in awkward places.

In motor control installation, a new development by Cutler-Hammer, Inc., Milwaukee, Wis., called Unitrol, is designed on the same principle as today's sectional filing cabinets. It is said to allow quick building up of any control center to meet present requirements; future changes due to expansion, shop layout changes, etc. can be taken care of by adding or removing sections, or by replacing the unit controllers, it is stated.

Also announced by Cutler-Hammer, Inc., is a new line of 100-amp. pull-out type service control. Available with or without branch circuits, it is rated at 230 volts a.c., and is available with two 60-amp. pull-outs and 1-, 6-, or 8-plug fuse circuits rated 115/250 volts.

A fluorescent luminaire announced by Edwin F. Guth Co., St. Louis, Mo. uses four 40-watt lamps and is available for close-ceiling or suspended mounting. Designed to produce high-quality semi-direct lighting, the luminaire utilizes a glass or plastic lamp shield to effect full-screened diffusion and reduce glare.

For fluorescent lighting installations where $1\frac{1}{2}$-in. lamps are used in open type fixtures, Edwin F. Guth Co. also announces "P-F-C" plastic diffusing strips which snap on fluorescent lamps.

A motor-operated valve said to be particularly adapted to the automatic control of corrosive fluids or gasses has been announced by Barber-Colman Co., Rockford, Ill. Valve bodies are available in alloys or in cast iron lined with lead, rubber, or glass to meet requirements; diaphragms are tough and are resistant to fluids handled, it is stated.

Water softener capacity increases are made possible by a new double check strainer system designed to make possible more softening capacity in smaller space from new softeners, or greater capacity from existing equipment. It is a product of Elgin Softener Corp., Elgin, Ill.

Totally enclosed fan-cooled motors announced by Century Electric Co., St. Louis, Mo., are designed for use where air is foggy with metal cutting solutions or where the atmosphere contains abnormal quantities of dust that ordinarily injure or clog the windings of general-purpose open motors. Cooling air is forced through the large air passages by the non-sparking fan.

Open-end V-belting developed by B. F. Goodrich Company, Akron, Ohio, is made in maximum 50-ft. lengths, in top widths of $\frac{31}{32}$, $\frac{7}{8}$ and $1\frac{1}{4}$ in. and in thicknesses of $\frac{7}{16}$, $\frac{5}{8}$ and $\frac{3}{4}$ in. Angle in each case is 40°; metal fasteners are used.

New Dyes and Chemicals

Synthetic Resin

For use in warp sizing of cotton and spun rayon and in starch finishing and back-filling, Quaker Chemical Products Corp., Conshohocken, Pa., has announced a recently developed synthetic resin, known as Diapene EG-25. This product is characterized by its binding adhesive, and plasticizing action. Inclusion of Diapene EG-25 in sizing and finishing formulas is said to effect remarkable improvement, because the starch film is more pliant, flexible, adhesive, and less likely to dust. In the case of warp sizes in particular, it is stated that tensile strength and warp elasticity are much improved and shedding or fuzzing of the warps in the looms is minimized. Heavy back-filling mixes which contain considerable quantities of clay, talc, or other pigments are said to be greatly improved because the finish will not dust out of the fabrics.

Dyeing Auxiliary

Katanol WB Conc., a new auxiliary for use in dyeing union fabrics has been announced recently by General Dyestuff Corp., 435 Hudson Street, New York. It acts as a reserving agent for animal fibers, and at the same time acts as penetrating agent. Because of these properties the new product is particularly useful in dyeing union fabrics which are tightly woven or which contain tightly twisted cotton or rayon yarns. It does not adversely affect the affinity of direct colors for vegetable

fibers and will not cause excessive discoloration of dyed fabrics upon exposure to light.

Calco Colors

Calco Chemical Div., American Cyanamid Co., has announced the following new products: Calcochrome Alizarine Blue Black B, a mordant acid dye, recommended for use in combinations to produce olive drab and kersey green shades for U. S. Government materials; it is applicable by any of the three commonly used chrome methods.

Calcomine Catchine 2G, a direct color, recommended particularly for hosiery dyeing and for producing dischargeable grounds on cotton and rayon piece goods.

Calcocid Yellow MCG, an acid dye producing a bright yellow shade with a green tone; it is recommended for use in place of higher-priced acid dyes of greater brightness and light fastness where no practical advantage is gained by the result obtained with the latter.

Calcomine Garnet B.Y. Conc., a direct color, yielding full shades of claret on cotton, rayon, and wool; on cotton-wool unions it produces dyeings of equal depth, but a slight shade difference.

Eastman Acetate Dye

Tennessee Eastman Corp. announces the following new product: Eastone Red R, an acetate rayon dye producing medium bright shades of red; dyeings are resistant to gas and light fading, perspiration, crocking, washing, and dry-cleaning.

Cation-Active Softener

A new cation-active softening agent, known as Lupomin Q, has been announced recently by Jacques Wolf & Co., Passaic, N. J. This material which can be applied in alkaline, acid, or neutral baths, is recommended for producing a soft, supple, full hand on cotton, linen, silk, wool, acetate, spun-rayon, and mixed fabrics. This finish is odorless and is said to withstand repeated launderings. It can be mixed with gelatine, gums, starch, and dextrin.

General Dyes

General Dyestuff Corp. announces the following new products: Viscose Navy Blue D, a direct dye suitable for producing navy blue shades on cotton and rayon; dyeings can be discharged to a good white with Rongalite C; because of its good resistance to diazotization and development with Developer ON, Viscose Navy Blue D is suitable for dyeing navies in conjunction with Cellitazols on mixed goods of rayon and acetate.

Wool Fast Orange GA, a product suited for the dyeing of wool, either as an acid color or as a chrome color; in the latter case it is principally dyed according to the afterchrome method.

Fast Light Yellow GGX Conc., a fast-to-light acid yellow yielding bright greenish yellow shades.

New Publications

Diagnoses the South's Case

SOUTHERN INDUSTRY AND REGIONAL DEVELOPMENT, by Harriet Herring; University of North Carolina Press, Chapel Hill, N. C.; $1.00

This is indeed a timely and interesting report on southern industry and the possibilities of its future importance to the South. Miss Herring proposes in her study that planners for greater industrial development apply to manufacturing industry the Odum principle of optimum production. Through comprehensive indices, which are simple in their presentation, she encourages the arts of manufacturing.

Miss Herring divides southern industries into three groups: (1) Those which manufacture for the nation from products upon which the South has a virtual monopoly; (2) those which manufacture for the region from local resources; (3) those which could manufacture from materials which could be produced locally for a better regional balance.

Her study of over 100 industries now manufacturing in the South and her challenge that they be developed is something southerners and prospective southerners have needed a long time. She has diagnosed the South's case. It is now up to the South to take its medicine and aim for future recovery.

We highly recommend this book to all associated with southern industry—particularly those in one of the South's largest: textiles and auxiliary industries.

A Powerfully Dramatic Novel

SEVENTH AVENUE, by Dorothy Meyersburg; E. P. Dutton and Co., Inc., New York; $2.50

Here is the vibrant story of two intense, frustrated people who are compelled to love, success and tragedy in the brutal kaleidoscope of the "ladies garment" industry.

With a keen understanding of personal emotions and with an obvious familiarity with her restless, colorful background, Mrs. Meyersburg tells the dramatic story of Julie (a dress designer) and Joe (a garment manufacturer), their rebellion against union racketeers and their futile attempts to achieve happiness. This engrossing novel will command the sympathy of readers familiar with New York's "Seventh Avenue" and unquestionable attention from those who are not.

Of Help to Exporters And Importers

CUSTOM HOUSE GUIDE; Box 7, Station P., New York, N. Y.; Price, $15.00

The 1941 edition of the Custom House Guide marks its 79th year of publication. It contains information on consular service, customs regulations, shipping, ports, trade terms, etc.

Tests and Specifications

1940 SUPPLEMENT TO A.S.T.M. STANDARDS (Part III, Non-Metallic Materials, General); American Society for Testing Materials, Philadelphia.

Chief interest in this book among textile men will be because it presents in cloth-bound form all the newly adopted and revised standards and all the new and revised tentative standards on textile materials. It contains, in addition, data on a wide variety of other non-metallic materials. Two other volumes are available, Part I, covering Metals; and Part II, on Non-metallic Materials—Constructional.

Shall I Be a Textile Designer?

TEXTILE DESIGNING AS A CAREER; published by The Institute for Research (Devoted to Vocational Research), 537 So. Dearborn St., Chicago, Ill.; $1.00.

We don't know how many young hopefuls (usually Miss Hopefuls) are today eyeing textile design as a possible career. Certainly there must be thousands. We have met at least a hundred of them in our office. And the much-discussed shift of the fashion center from France to this country is increasing their ranks daily.

These aspirants need, first, a basic understanding of the possibilities and limitations of the field; and, second, a guide to the schools, magazines and books related to the subject. This excellent monograph supplies both these

needs. It is the result of a real research study in that it does not attempt to "sell" textile designing as a career, but merely explores it. In fact, it devotes considerable space to what it calls the "unattractive side."

It is this reviewer's belief that, if one of these young hopefuls will read this pamphlet several times, follow up on the bibliography, investigate the schools, and then talk it over with a few authorities in the field, he or she (mostly she) will get a full dollar's worth from the purchase of the monograph. Those who are dissuaded from attempted entrance to the field will get their money back in a negative way. Those who still want to go ahead probably belong in this work.

Textile designing is a profession for the creative artist. As such, it entails the hard work and limited average financial return which creative effort rates in the modern world of mass production and merchandising. A few get to the top and make big money. The rank and file will have to find their reward in the satisfaction of doing well what they like to do.

Those to whom this type of reward is not attractive should investigate some other field.

Textile Abstracts

COMPENDIUM OF TEXTILE PATENTS AND NEW PROCESSES: by Paul Wengraf; Richards & Geier, 274 Madison Ave., New York.

First issue of new abstract service consists of abstracts of American, British, French, Austrian, Swiss, and other foreign patents, together with commentaries on articles printed in textile publications. Dr. E. W. K. Schwarz is collaborating with Dr. Wengraf in assembling and editing the data. Oscar A. Geier is acting in an advisory capacity on patent and trademark matters.

Eli Whitney Without His Cotton Gin

WHITTLING BOY, by Roger Burlingame; Harcourt, Brace & Co., New York; $3.00

The names Eli Whitney and cotton gin have become synonymous. But not until Roger Burlingame finished Whitney's other achievements out of an obscure past have we known him as anything except (according to the schoolbooks) "a visiting Yankee school teacher" who incidentally whipped together the gin. And it is high time for the reading public to be given the story of this vastly interesting character, the man who was first to formulate the policy of mass-production in manufacture; the man who first realized the need to have and the possibilities in having machine tools, and pattern makers. As a matter of fact, Whitney could hardly have been called a school teacher. It is true that en route to his tutor's job he visited at the Widow Greene's South Carolina plantation, Mulberry Grove, and there against his will he was persuaded by his hostess and Phineas Miller to try to invent a cotton gin. The principle was worked out reasonably soon; and this principle has never been changed to this day.

That was, at least to the South, Whitney's most important invention, but from it he reaped no wealth, only litigations, debts and poverty.

While other of Whitney's inventions were equally important, such as his army musket, it was his principle of production that really counted most. From Whitney's production policies has America's great industrial empire grown.

Cotton Statistics Through 1939-40 Season

COTTON YEAR BOOK, compiled under direction of Alston H. Garside, economist; New York Cotton Exchange, New York.

The 1940 edition of this useful compilation of cotton statistics, carries the data on production, consumption, stocks, prices, etc., through to the close of the 1939–40 crop year.

Cotton in Cordage and Twine

UTILIZATION OF COTTON AND OTHER MATERIALS IN CORDAGE AND TWINE, by Robert B. Evans and R. J. Cheatham; Dept. of Agriculture, Washington, D. C.

This booklet brings together data on materials used in producing cordage and twine; outlines the part played by cotton; and tells uses to which various types of cordage and twine are put.

News of Suppliers

Veeder-Root, Inc., Hartford, Conn., announces that George L. Logan is now associated with that company and will specialize in the sales and engineering of Veeder-Root counters to the knitting trade.

Philadelphia Drying Machinery Co., manufacturers of "Hurricane" drying and finishing machinery, has discontinued business. Their patterns, drawings, engineering data, patents and inventory have been bought by Proctor & Schwartz, Inc. of Philadelphia, builders of "Proctor" drying equipment. The personnel of Philadelphia Drying Machinery Co. has been taken into the Proctor & Schwartz organization, and

SNAPPED AT CHATTANOOGA meeting of A.A.T.C.C., South Central Section, on Feb. 8. Left hand picture shows Malcolm-Mackenzie of Sandoz Chemical Works, Jack Robertson of Beach Soap Co., Irving Royce of Royce Chemical Co. and Fletcher Kibler of United Hosiery Mills, with Mrs. Kibler. Mr. Kibler is chairman of the section. Right hand picture shows J. H. McCall of J. H. Allison & Co., and Paul Logue and C. D. Clement both of Monsanto Chemical Co. Mr. Logue read a paper on sodium phosphate.

will operate as the Philadelphia Drying Machinery Division of Proctor & Schwartz, Inc.

Beach Soap Co., Lawrence, Mass., has elected Gordon R. Fulton as president and treasurer, and Wilbur E. Rowell as vice-president and clerk. William E. Philbrick continues as chairman of the board.

Adelphia Textile Co., Philadelphia, Pa., in addition to representing the A. H. Rice Co. for the sale of Nylon thread to hosiery manufacturers, is now offering this yarn to manufacturers of all types of women's apparel, such as underwear, corsets, gloves and umbrellas.

H. M. BAILEY, JR., newly appointed sales manager of Atwood Machine Co., Stonington, Conn. Details were given in our February issue.

E. I. duPont de Nemours & Co., Inc., Wilmington, Del., is offering for club and school showing a new sound-and-color motion picture "A New World Through Chemistry." This moving picture shows various steps in the manufacture of Nylon, rayon, coal tar dyes, Zelan water-repellent finish, and other products.

Mason-Neilan Regulator Co., Boston, Mass., has opened an office in Atlanta, Ga., in charge of H. C. Earle. Location is at Room 1600, 22 Marietta St.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., will build a $3,000,000 plant at Fairmont, W. Va., to produce fluorescent lamps. David S. Youngholm, vice-president, estimated that 2,000,000 fluorescent lamps were sold in 1939; 7,000,000 in 1940, and probably as many as 20,000,000 in 1941.

Warwick Chemical Co. has appointed Anthony F. Costello, for a number of years salesman and technical demonstrator, to be textile sales manager for the New England territory. Paul Fabian has joined the technical sales staff of the company as sales technician travelling in New England. Mr. Fabian was for many years manager of Uncas Finishing Co., Mechanicsville, Conn., and for the last two years, manager of United Merchant's Arkwright plant in Fall River.

CORN PRODUCTS SALES CO., New York, has established a modern laboratory at Greenville, S. C., for testing and experimental work on textiles. Above is a view in this new laboratory

American Viscose Corp., Lewiston, Pa., will introduce cake washing of its rayon yarn at the Lewiston, Pa., plant. This process is already employed at the Front Royal, Va., plant.

Libby-Owens-Ford Glass Co., Toledo, Ohio, has appointed Ralph Winslow as director of advertising and publicity. He was formerly assistant advertising manager of the Armstrong Cork Co., Lancaster, Pa.

FRED W. PHILLIPS, who has joined the southern staff of New York & New Jersey Lubricant Co., with his headquarters in Greenville, S. C., as reported in these columns last month.

U. S. Gutta Percha Paint Co. has appointed C. L. Park to its sales force with headquarters in Atlanta, Ga., devoting his time to Alabama, Georgia and Mississippi. L. K. Palmer, in addition to his present territory, is taking on South Carolina and part of North Carolina which will be handled in cooperation with his brother, John S. Palmer, who for many years has made headquarters in Greenville, S. C.

American Leather Belting Association, New York, is featuring the "Production Drive." This drive, which consists essentially of a pivoted motor base and improved flat leather belting, is said to result in increase in production and reduction in seconds due to steadier transmission of power. The drive maintains correct belt tension at all times.

American Machine & Metals, Inc., East Moline, Ill., have inaugurated a new series of cartoon-type ads to publicize their line of Tolhurst Centrifugal equipment. These ads will be directed to the chemical, textile, metal working, food and other process industries. The first of the series appeared in February, 1941, TEXTILE WORLD. According to C. W. Anderson, sales manager of the company, this new campaign combines cartoon-strip technique with regular straight selling copy and product

DR. A. E. BOSS, who has been named manager of pigment sales, Columbia Chemical Division, Pittsburgh Plate Glass Co.

CHECK YOUR POSITION

A miss is as good as a mile. In navigation it costs lives. . . In business it costs money. . . A careful check on the winding operations in your plant may uncover minor inefficiencies.

There is one correct cone for every winding job . . . and whether of standard or special design, SONOCO takes full responsibility for the correct answer. Our engineers will be glad to make a check for you.

Visit Our Space No. 237
GREENVILLE TEXTILE SHOW
MARCH 31 TO APRIL 5

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

illustration. The series of ads is entitled "The Adventures of Tolhurst," a character created to symbolize centrifugal force as it is applied to industrial production problems. Each advertisement in the new series will be based upon an actual case history from the company's files. American Machine & Metals, Inc., have appointed Alonzo M. Harp as assistant sales manager of the DeBothezat Ventilating Equipment Division.

Dennison Mfg. Co., New York, has appointed an advisory committee to assist manufacturers and retailers in meeting the requirements and solving the problems created by the Wool Products Labeling Act. J. J. Ford is head of the company's factual labeling division and members of the committee include R. A. Maish, director of distribution; A. P. Williams, manager marking device division; H. S. Owen, manager marking equipment; C. F. Ahern, manager of customer service.

Cochrane Corp., Philadelphia, reports that John E. Fearson, until March 1 in charge of the Flow Meter Sales Section of the company's Appliance Division, has joined the Boiler Equipment Service Co., Atlanta, Ga., and will be a member of the firm. This Atlanta company represents Allen-Sherman-Hoff, American Engineering, Bernitz Furnace Appliance, Cochrane Corp., Fairfield Engineering, and Diamond Power Specialty in the South.

THIS SCHOLLER BROS., INC., ADVERTISEMENT, prepared by R. E. Lovekin Corp., was selected by a committee of artists and art critics to receive one of two awards offered in the 1941 Exhibition of the Advertising Art Directors Club of Philadelphia, recently held at the Philadelphia Museum of Art, for the best laid out and designed magazine advertisement, including both general publications and trade papers, from among more than 300 entries. The advertisement appeared in the March, 1940, issue of TEXTILE WORLD.

A TRIO OF TEXTILE NIMRODS, and a club manager. Scene: Ocean Forest Club, Myrtle Beach, S. C. Left to right, Samuel Pettus, Dyestuff Division, E. I. du Pont de Nemours & Co.; George Wilkinson, Lane Paper Co.; Alex Davis, Saco-Lowell Shops, Charlotte, N. C.; Ben Sumner, director of the club—not to forget the ducks, bagged in one morning's shooting.

Industrial Steels, Inc., Cambridge, Mass., has appointed R. E. Mason, of Charlotte, N. C., to serve the textile industry of the South with the company's stainless steel materials, fittings, and accessories.

Pittsburgh (Pa.) **Plate Glass Co.,** Columbia Chemical Division, has named Dr. A. E. Boss as manager of pigment sales. He formerly was manager of the technical service department and he will establish headquarters in New York, and concentrate particularly on sales of Calcene and Silene. The Columbia Chemical Division has lately opened a chemical sales office at 615 Johnston Building, Charlotte, N. C., with James R. Simpson as district sales manager.

General Electric's lamp department at Nela Park, Cleveland, Ohio, has increased the discount to non-contract purchasers of lamps, effective March 1. On orders of $5 to $15 for delivery at one time and place, discount is now 20% instead of 15%. Purchases of more than $15, or in standard package lots, will entitle purchaser to a 25% discount. G. E. Institute, Nela Park, will hold a series of lighting courses and conferences during April, May, September and October.

Joseph T. Ryerson & Son, Chicago, Ill., have appointed James M. Mead as manager of the Philadelphia plant. He has been with Ryerson for 22 years. Mr. Mead succeeds Arthur C. Allshul who retired Feb. 1 after 42 years continuous service, the oldest Ryerson employee in point of service.

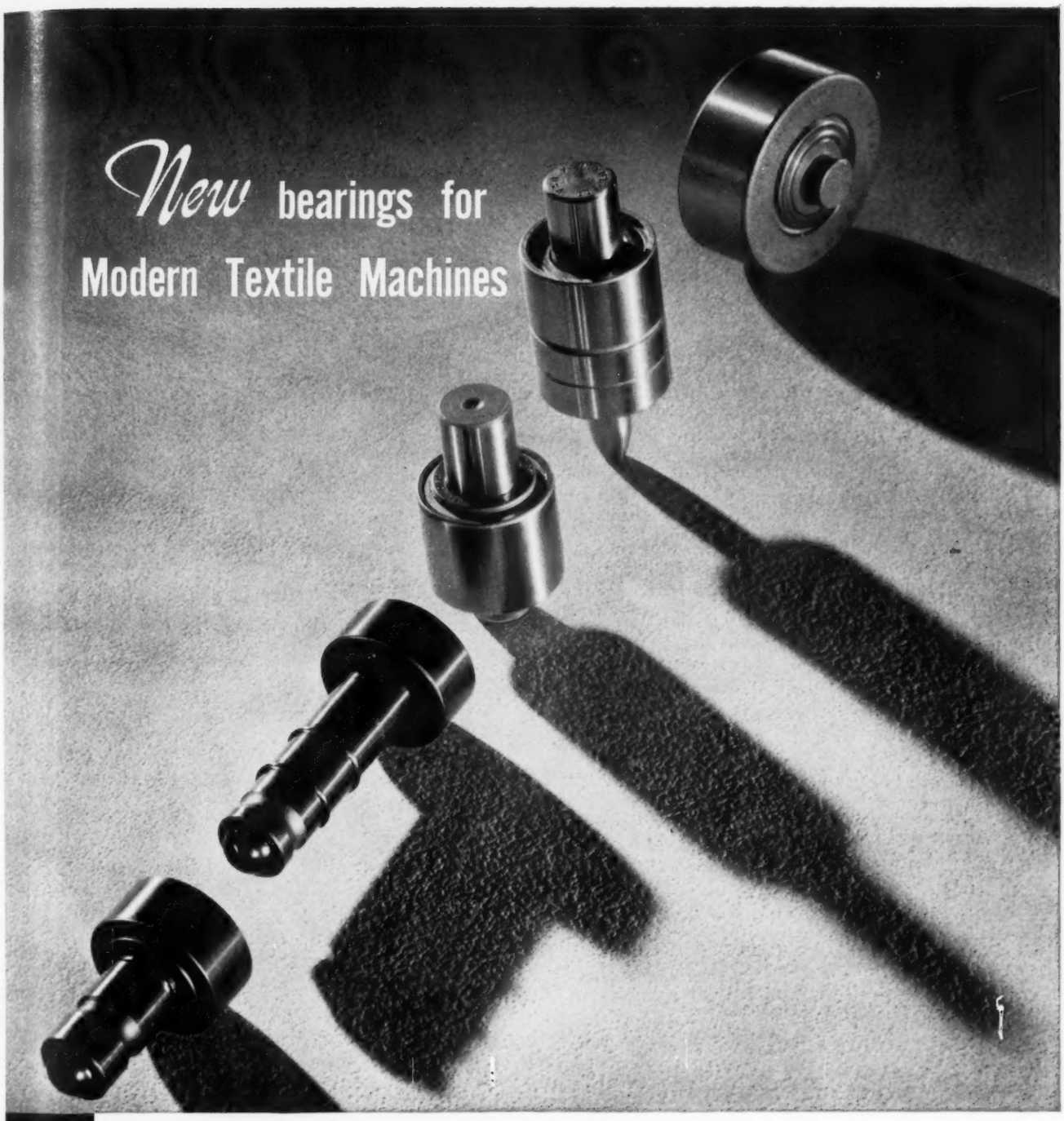
Propeller Fan Manufacturers Association held its annual meeting in January at St. Louis, Mo. E. W. Peterson, American Blower Corp., was elected president; A. R. Stephan, DeBothezat Ventilating Equipment Division, vice-president; V. C. Shelter, Detroit, Mich., secretary-treasurer.

G. H. Waterman & Co., Providence, R. I., have elected George H. Waterman, Jr., president to succeed his father, the late George H. Waterman. Earl W. Eddy is vice-president, Kirkland H. Gibson, treasurer and Russell H. Emmott, secretary. Mr. Eddy continues in charge of the Philadelphia office and Harvey Chalmers, 2nd., in charge at Amsterdam, N. Y. Edward B. Germain, president of Dunlop Tire & Rubber Corp., Buffalo, N. Y., was elected a director.

Glyco Products Co., Inc., have moved offices, plant and laboratories from 148 Lafayette St., New York, to larger quarters in a new building erected to their specifications, at 230 King St., Brooklyn, N. Y.

Lunkenheimer Co., Cincinnati, Ohio, has elected Harry A. Burdorf and Frank P. Rhame, vice-presidents, to the board of directors. The former is in charge of sales, and the latter has charge of sales engineering.

Manning, Maxwell & Moore, Inc., Bridgeport, Conn., have appointed J. E. Day as representative in the Charlotte, N. C. district. He formerly represented Kester Machinery Co. of Winston-Salem, N. C.



● Be sure to stop at Space 472 in the Annex, at the Southern Textile Exposition this month and examine these five new ball bearings designed by New Departure, especially for textile machines—a further evidence of New Departure's creative engineering.

They are, left to right, two horizontal tension pulley bearings, two vertical tension pulley bearings with their own oil circulating system and a lubricated-for-life treadle roll bearing.

If you cannot be at Greenville, write us for details.

New Departure, Bristol, Connecticut. Charlotte, Philadelphia and Boston.

NEW DEPARTURE

PIONEER OF THE SELF-SEALED BEARING

2977

ADVERTISING PAGES REMOVED

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Use of V-belt to give reverse rotation on a napping machine is one of a series of articles on the subject of V-belt uses which appears in the February issue of *Industrial News*, published by Gates Rubber Co.

Water-cooling equipment said to give greatly increased economy over older methods, is described and illustrated in a catalog offered by Frigidaire Commercial and Air Conditioning Div., General Motor Sales Corp.

Wetting agents for textiles are the subject of a 20-page booklet devoted to the properties, types, and applications of Deceresol, offered by American Cyanamid & Chemical Corp.

Brushes for cotton and wool cards and combs, thread dressers, cloth-steaming machines, and other industrial purposes are illustrated and described in an eight-page catalog issued by Fuller Brush Co.

Casters and wheels for roving boxes, doff boxes, and other equipment used in textile mills are the subject of catalog No. 10140, issued by Faultless Caster Corp.

Geography of the United States is portrayed in a large natural-color map, which shows on one side topographical characteristics of the country; and on the other location of plants, service shops, and sales offices of Westinghouse Electric & Mfg. Co.

Warp sizing of rayon yarns, with particular reference to factors that affect evenness of stretch, is the subject of the February issue of *Rayon Warp Sizing Specialist*, distributed by Charles B. Johnson Machine Works.

Clothroom experiences which indicate that new shears can sometimes be purchased entirely out of the savings they make possible, and that inaccuracies in measuring machines cost mills considerable sums of money, are related in the February issue of *The Clothroom Spotlight*, published by Hermas Machine Co.

Air conditioning by the central-station method is the subject of a 16-page article in the February issue of *Parks' Parables*, issued by Parks-Cramer Co.

Rayon throwing and the significance of the symbol "5B", are discussed in the February issue of *Atwood Twists*, a publication of Atwood Machine Co.

Adjustable-speed drive for a.c. circuits, in an all-electric type, is the subject of Bulletin 310, which includes photographs of the equipment installed on saniforizers, rayon slashers, and winders, offered by Reliance Electric & Engineering Co.

Remote transmission applied to indicating, recording, and controlling of temperature, pressure, flow, and liquid level in hazardous atmospheres is the subject of catalog No. 9400, issued by Brown Instrument Co.

Creosote specially produced for pressure treatment of wood to protect it against termites, marine borers, mold, and fungi is the subject of Folder TD-5 offered by Koppers Co., Tar and Chemical Division.

Indicating thermometers for industrial uses are the subject of a 6-page folder which includes a unique full-sized photograph of a dial type indicating thermometer offered by Foxboro Co.

Knitting Machinery for production of interlock fabrics incorporating designs of various types is discussed in a folder issued by Wildman Mfg. Co.

Engineering studies in the fields of civil, mining and metallurgical, mechanical, and electrical engineering are reported, together with other data, in the Annual Report of the Engineering Foundation.

Plastic coatings said to be corrosion proof and non-contaminating and to give a pliable abrasion-resistant film, impervious to a long list of acids, alkalis, oils, fats, and alcohols, are described in a new catalog issued by American Concrete & Steel Pipe Co.

Controls for temperature and humidity, automatically and electrically operated, are covered in a descriptive bulletin offered by Barber-Colman Co.

Materials-handling equipment in a complete line from light weight tote boxes to heavy-duty steel-clad trucks is described in Catalog HW-10, recently made available by Continental-Diamond Fibre Co.

Oilless bearings for a wide variety of textile and other uses are pictured and briefly described in a 4-page leaflet offered by Nolu Oilless Bearing Co.

Vacuum stripping and waste collecting equipment for both cotton and woolen mills is described in a new catalog issued by Abington Textile Machinery Works.

Educational aids for teachers who desire to discuss rayon are described in a booklet offered by E. I. du Pont de Nemours & Co., Inc.

Frame protection for all the wooden parts of harness frames is described and illustrated in a folder relating to damp-proof and water-proof covering used on wooden frames manufactured by Steel Heddle Mfg. Co.

Fade-testing of dyed textiles by means of its recently introduced Isophotic Fade-Ometer is the subject of a 20-page illustrated booklet issued by Atlas Electric Devices Co.

Wet-finishing machinery for textile mills in a wide variety of types is discussed in catalog No. 539 distributed by Rodney Hunt Machine Co.

Mercerization of cotton in various forms, data on important factors having a bearing on mercerization, and discussion of its penetrant products for assisting in the operations, are described in a booklet recently issued by Hart Products Corp.

Woolen manufacturing machinery, how new machines can be made to pay for themselves under present conditions, and how already installed equipment can be put into good operating shape, is described in the January issue of *Davis & Furber News*, which is distributed by Davis & Furber Machine Co.

Accountancy practices, and some of the problems which may require basic change and refinement in methods are discussed in a 100-page book titled "The Balance Sheet of the Future," which is being distributed by Dun & Bradstreet, Inc.

Pennsylvania industries and employment, tourist travel, research and planning, and other interesting information regarding that state is contained in Report No. 1 issued by the Pennsylvania State Department of Commerce.

Hoisting equipment, and its application in textile and other industries, is described in Bulletin 1004 issued by Reading Chain & Block Corp.

Electric motors are discussed in two recent publications; Bulletin GEA-3488 contains eight pages on maintenance of d.c. motors; Bulletin GEA-978B is a four-page folder describing high-speed induction motors for direct connection; both booklets are offered by General Electric Co.

Lubrication of industrial equipment is the topic of the December, 1940, issue of *Lubriplate Film*, which discusses the properties and performances of a number of oils offered by Fiske Bros. Refining Co.

Consulting chemists and chemical engineers are listed, and the types of work they are prepared to undertake are briefly described, in the 1941 edition of the directory of members of the Association of Consulting Chemists and Chemical Engineers, Inc.

Variable-speed control's part in increasing productive capacities of a wide variety of machines is told in a word and picture booklet; included are photographs of drives on one-process picker and long-chain beamer; booklet is designated C-412 and offered by Reeves Pulley Co.

Dyes used in production of eight principal olive-drab woolen uniform cloths are described in Technical Bulletin No. 583, issued by Calco Chemical Division, American Cyanamid Co.

Electrical warp stop motions and their application on looms producing a wide variety of cotton, woolen and worsted, silk and rayon, and miscellaneous fabrics, is the subject of a 16-page booklet issued by Rhode Island Warp Stop Equipment Co.

Business managements' attitude toward eleven major factors in production and distribution is shown in a chart classifying modern, progressive, and static practices; offered by Wolf & Co., Inc.

THE OVERSEERS' CORNER

OVERSEER RECORD-KEEPING

A PETE & BILL DISCUSSION

Outraged grunts and snorts were coming from Bill's office, and Pete stopped to inquire what the trouble was. He found Bill's desk literally snowed under a pile of papers, and Bill getting madder by the minute as he attempted to put them in some kind of order.

"Going home soon?" inquired Pete sweetly, as he tried to hide the twinkle of deviltry in his eyes.

"Home!!" Bill fairly shouted. "Home? I hardly know I've got a home. I was around here half the night last night, and it looks like I'll be here all night, tonight!"

"What seems to be the trouble?" asked Pete soothingly.

"Trouble?" Bill echoed him. "Trouble? Oh, no trouble at all, except they want me to keep so darn many records around this place. I either have to work on them all day and let my department go to the dogs, or else work all night making up darn-fool records that are no good anyway."

"Well, I don't agree with you on that," Pete came back. "I have to keep records too, and I think they're really a help. They help to cut down waste. If you have a record of defective work, you know what to be on the lookout for. And they tell me when I'm getting high efficiency from my machines. And a lot of other things too."

He found Bill's desk snowed under

"Nuts!" Bill snapped. "I claim that any man who knows his stuff can run his department in his head, without having to look up a whole flock of records all the time. I ran this department long before they had all these smart-aleck ideas about keeping records. Ran it good, too. And I could do it again, if they'd only leave me a little time for the work that really matters."

"Oh, it doesn't take so much time to keep records," Pete replied. "What you need is a little system. I find that by keeping all my record sheets in one place, and working on them at a regular time each day, I still have time to tend to my department. And I don't have to work all night either. Good night," he concluded with a grin, "I'm going home now. Have a good time."

How much paper work should an overseer be expected to do?

Letters From Readers

Third Shift Lazy?

"Third Shift Efficiency"
Pete & Bill, Jan. 1941

Editor, Overseers' Corner:

Pete is right as far as the machinery speeding up on the third shift is concerned. But there is lots of truth in what Bill has to say about the help being lazy. Some of the people will try to get by with just as little work as possible when the boss is not around, and the third shift is no exception. Any one knows that by not getting the proper oiling, machinery will run hot and cause fires; spindles will get stuck and the cylinder will have to come out. I am not saying this can't happen on the first or second shift also, but the chances are greater for it to happen on the third shift than the other two shifts.

HOMER J. CABANISS
Avondale Mills
Sylacauga, Ala.

Bill Lacks Executive Ability

"Draft and Labor Shortage"
Pete & Bill, Nov., 1940

Editor, Overseers' Corner:

Poor Bill! Up against it as usual, worrying about labor problems instead of analyzing conditions to see that his help is properly taken care of and that proper morale exists. He is ready to close his doors. Problems of this kind are not solved by cursing and banging doors. I believe the proper procedure is to make a study of the executive force to see if the results obtained are (1) through the whip method, (2) letting the help work as they see fit, or (3) if the overseers themselves are setting bad examples through indifference, carelessness, etc. Overseers must use diplomacy in seeing that the men are adaptable to

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42nd St., New York.

Safety in the Picker Room

The safe operator avoids injury around picking machinery by doing the following:

1. He examines his machines when he starts to work to see that all guards are in place and everything working properly. He reports all things that need repair to his second hand or his fixer.
2. Before starting a machine, he looks to see if anyone is working on same.
3. He does not attempt to remove a choke out of screens or beaters; he calls the fixer who stops the machine and removes choke.
4. He does not remove doors in fan flues or chokes while the picker is running.
5. He does not wipe around any moving parts of machinery with waste; he uses a brush or mop or stops the machine.
6. In guiding in lap he uses the palm of his hand with fingers extended upward, for he doesn't want his fingers caught in rollers.
7. He handles lap pin with both hands and he also uses both hands when wrapping pin. He is careful to get a good hold on pin so that he will not drop same on his feet.
8. He carries all sharp-pointed knives in a sheath or has the point on same rounded, so that if he drops same it will not stick in his foot.
9. He does not wrap end of lap around lap pins while logger heads are down.
10. When working around machines he does not over-reach. He knows his feet may slip, causing him to fall on machine.
11. He knows that belts are dangerous and so he keeps his hands away from same.
12. He keeps all objects such as bottles, etc., off the floor around his machines, for he does not want to be responsible for an accident.
13. He keeps his mind on his work and thus avoids many injuries. He reports all unsafe conditions and practices to his overseer.
14. He keeps up with his work so he will not have to hurry, for hurrying may cause him to injure others or himself.
15. He keeps his hands from under tramp on baling press, and he watches out for loose ties on bales.
16. He pushes needle in opposite direction from hand at all times.

—*National Safety Council*

the jobs assigned. It is as bad for a man to have too much work laid out, causing him to lag and lose interest, as it is not to have enough work. All these things have a tendency to make or break a man's morale. There is very little chance of losing a satisfied employee. It is a well-known fact that often labor troubles are caused directly or indirectly by mismanagement, lack of mutual cooperation, chiseling and improper wage scale. Lack of executive ability seems to be Bill's trouble.

L. J. GROULP
(*Williamsport, Pa.*)

Economy

Editor, Overseers' Corner:

A loomfixer should economize wherever practical. Part of this economy is in the prevention of excessive breaking of parts. The greatest expense in this connection is in shuttles, pickers, and picker sticks.

He should always strive for an easy, smooth pick. He should have his looms running easily without excessive thumping or jarring.

Anything that can be used should not be discarded when removed from one part of a loom, but should be carefully preserved for use on some other part. Bits of leather, worn out pickers, and picker sticks fall in this classification. Bits of leather can be used for many purposes. Old pickers make good picker pads and the bearing of a rawhide picker makes a good bushing for the binder pin. Picker sticks that are worn out at the top but otherwise all right make good sweep sticks.

But economy should never be allowed to become a mania. Production and quality must not be sacrificed for saving. Accumulation of useless, worn out junk is not a saving. In fact, the bench and vicinity can easily become so littered with antiques and cripples that good material cannot be found when wanted. The bench, and cupboards and lockers should be given a thorough going over at regular intervals and parts that can not be used, or of which excess quantities are on hand, should be thrown out and the remainder sorted.

It is not good economy to use a worn out bolt or setscrew where it might cause a more expensive part to break; neither is it good economy to continue to use parts of a shuttle which have become cut and will surely cause broken picks, shires, and stripped filling thereby ruining a piece of cloth. The point the writer is trying to convey is that his constant endeavor is to save wherever it does not interfere with production and quality of cloth.

—C. S. B. *(Pa.)*

Overseers' Practical Helps

Practical Tips

Tie a few strands of a light cord to the middle coil of a spring before attempting to snap it into place. Then, if the spring slips and flies off it can be found by its tail. Many trips to the supply room or the work bench may be saved by this simple safeguard. The procedure can also be followed with small pins, screws or bolts that have to be put in awkward places.

If a certain bolt on one machine is found to be loose, it is reasonable to assume that a similar one might be loose on others. If you tighten the loose bolt on each machine under your care, you will soon find that you have time in which to study the job above you.

—George W. Reid (*New Jersey*)

First Aid for Armatures

To rewind an electric motor properly it is first necessary to remove completely the insulation material from the slots in both rotor and stator. Using knives, files, scrapers, and motor-driven sanding wheels, the services of an experienced mechanic may be required for anywhere from 2 to 10 hr. for cleaning the slots of a single armature, and the results often are not entirely satisfactory because all of the paper cannot be removed by this method.

One repair shop recently developed a faster, simpler, and more efficient method. A description of the method, published recently in *Oxy-Acetylene Tips*, appears here in abstract. Equipment required for the operation is a decarbonizing blowpipe, a small air-acetylene torch, supplies of oxygen and acetylene, and suitable regulators and hose. With motor apart and positioned so that slots are accessible, the air-acetylene flame is used as a pilot to start combustion of the insulating material at the end of one of the slots. As the paper begins to burn, the blow-

Decarbonizing blowpipe hastens burning of insulation in armature slot

pipe is inserted and the valve opened. The air-acetylene torch is then withdrawn and the blowpipe moved slowly along to the other end of the slot. The oxygen is supplied through a ¼-in. hose at a pressure of 3 lb. per sq. in.

Burning by this method is so thorough that no additional cleaning of the slot is necessary. Jobs which previously required from 4 to 8 hr. are now completed in 20 to 30 min. by means of the decarbonizing blowpipe. In addition, the technique, which can be used to remove frozen gaskets from fittings, or any combustible material from metal, can be mastered very quickly even if the operator is unfamiliar with the oxy-acetylene process. On some of the large motors a heavily oxidizing flame, produced by a standard welding blowpipe with a small tip, has also been found to work quite well.

More Effective Lubrication

Of anti-friction bearings and spindles brought about by research

The way in which research by machinery designers, better understanding of lubricating problems by mill maintenance men, and improvements in lubricants have led to more efective lubrication of textile machinery is discussed in an article in the March, 1941 issue of *Lubrication*, published by the Texas Co. Following is an abstract of those parts of the article dealing with lubrication of anti-friction bearings and high-speed spindles.

EVALUATION of the ability of any specific lubricant to function effectively in textile service requires correlation of operating conditions with features of construction and the characteristics of the lubricant. In other words, lubrication of textile machinery has progressed beyond the stage of hit-or-miss buying.

There are three outstanding reasons for this transition:

1. Textile machinery operators realize more fully than ever the amount of investment which but a few dollars worth of lubricants must protect.
2. Machine designers today plan for protected lubrication, even in the drafting room stage.
3. The petroleum industry, in becoming more familiar with textile operating conditions, has perfected lubricants of specific characteristics which will function more dependably under these conditions.

The trend towards more extensive use of the ball and roller bearings, super-finish and lower tolerances in sleeve bearings, and the application of more positive means of lubrication have contributed to marked lowering of maintenance costs.

Power consumption is a most important item in textile machinery lubrication. It can be more fully realized by visualizing that sometimes upward of a hundred ball or roller bearings can be applied to certain types of frames, etc. This unit power consumption per bearing may seem negligible; but over the machine as a whole it may become a serious item and materially affect the motor capacity, especially if unsuitable greases are used.

By this term "unsuitable" we do not infer quality, but rather ability to protect the ball- or roller-bearing elements and, at the same time, require the least amount of power for turning. A grease which is too heavy or tacky may show so high a starting or running torque in the bearing as to render its use prohibitive. Yet, for durability, resistance to temperature and low oxidation characteristics it might be ideal.

A buttery or short fiber texture has proved to be most conducive to low torque. Furthermore, these characteristics must prevail over a wide temperature range, since textile service may require starting sometimes under near zero weather conditions, and operation considerably above 100° F.

SPINDLE DESIGN under modern high-speed operating conditions has a direct relationship to lubrication. The spindle oil must perform a dual function under such conditions, serving: (1) as a shock absorbing element or buffer to prevent vibration or hunting; and (2) as a lubricant in the reduction of frictional wear and attainment of power economy.

Just how the oil must behave to assure of best results will be of interest. There was a time when low power consumption was the most talked of factor. Naturally, it was given very serious consideration, since it involved such a noticeable percentage of the entire amount of power consumed by the average mill. More recently, however, in the advanced study of spindle design, unit power consumption has been associated with other factors which have been found to have a combined influence upon the maximum production of quality yarns.

These factors involve resistance to atomization, minimum increase in viscosity, and low corrosive tendency. All are functions of the chemical stability of the oil. In other words, just as the modern spindle is designed to operate on an oil within a very definite viscosity range, according to the speed, package weight, and traverse length, so must this oil, in turn, stay within this viscosity range without sludging or in any other way changing its physical characteristics.

Spindle speeds in the modern spinning frame have been materially increased in recent years. From a former high of some 6,000 or 8,000 r.p.m., an average of 10,000 now prevails in cotton mill operations, with 12,000 to 15,000 in the silk and rayon industry.

Speeds of this nature develop conditions of vibration which may cause faulty spinning with an excess of end breakage, unless this vibration is prevented. It is impracticable to design the spindle base and bolster entirely to accomplish this result; hence one of the primary functions of the spindle oil is as a shock-absorbing assistant.

For lubrication to be most effective, the contact surfaces of the spindle and bolsters must be as perfect as possible. Spindles being of high-grade steel can be accurately machined to a virtual mirror finish. Bolsters, however, are of cast iron; hence they must be run in to bring about a suitable glaze which will be conducive, not only to continued lubrication, but also to reduced wear. Unless this surface glaze is properly developed shortly after the spindle assembly is put in operation, vibration cannot be effectively prevented.

In order for a lubricating oil to function at its best it must be highly resistant to break-down or oxidation. Should this occur in service, sludge may be developed to interfere with the cushioning or dampening ability of the lubricating film.

The selection of a spindle oil today must therefore be approached in a most careful manner. Unless the oil in service is able to function with a minimum of drag, power, or friction losses, uneven or irregular twist may occur. This will be indicated by a soft package and a radical decrease in the breaking strength of the yarn, also excessive end breakage. High power consumption will be the forerunner of such a condititon. Temperature difference has come to be regarded as of vital importance in this connection, and

the difference which may exist between the room temperature and the temperature of spindles is now accepted as a primary indication of the lubricating and friction-reducing ability of a spindle oil. The ideal would be obviously an absence of any difference in temperature.

As friction can never be entirely eliminated, spindle oils will almost always be subjected to an operating temperature somewhat above that of the surrounding atmosphere. With a high-grade spindle oil, this temperature difference may range from 10 to 15° F.

We are not alone concerned with contact or metallic friction, as there will also be the internal or molecular friction within the oil. Consequently the oil viscosity becomes an important item in this regard. Based upon research in spindle operation and design, certain viscosity limitations have been allocated to given types of spindles, where the operating conditions have been anticipated.

Reduction in viscosity of a spindle oil should never be carried to an extreme, due to impairment of oil film strength and the possibility of subsequent metal-to-metal contact. This would lead to an increase in metallic friction which would cause excessive wear and increased maintenance. Unfortunately this cannot be anticipated until the damage is done.

Why Cloth Defects Occur

An analysis of some common weaving faults and their causes

By J. A. WOELS

WEAVING DEFECTS can be most costly to a mill because frequently the imperfections that occur on the loom ruin otherwise near-perfect work from previous processes. The defects which are described in the following paragraphs are some of the more common ones which creep into the cloth; most of them can be cured in a short time and with little trouble.

1. *Uneven cloth.* This is one of the commonest faults with which the weaving overseer has to contend, and, like other bugbears in weaving, it can have a number of causes. A loom driving belt which has been repaired with lengths of new or old leather will not grip the pulley evenly, and the result is an uneven beat-up and faulty cloth. If the loom is not securely fastened to the floor, the vibration which is set up will affect the cloth. Any defect in the take-up or let-off motions will result in the shadowy cloth referred to as uneven; the reed must beat the filling up firmly and evenly, otherwise the cloth will reveal this defect in some form. Often, however, it is not the fault of the machine, for if the filling is uneven, the cloth will be likewise.

2. *Patterning.* Weavers working on 4- and 5-shaft twills sometimes are troubled by fine cracks or thin places which occur, not as start-up marks, but while the loom is running. Faulty shedding is the cause, and the back harness usually gives the trouble by lifting too high; if this harness is adjusted, the cracks which appear every four or five picks will vanish. The same evil is, of course, apparent in various weaves, and the remedy is in adjusting the harness which is lifting too high.

3. *Cloth Too Narrow.* When an error in calculations results in the cloth coming out too narrow, the only way to secure an increase in width is by weaving with the warp slacker than usual and by using special temples to pull the cloth as wide as possible.

4. *Slubs.* Weavers occasionally find short slubs about ¼ in. in length near the cloth selvage. These slubs lie lengthways with the filling, yet examination of the filling reveals no slubs. They are caused by friction which frays the yarn without breaking it, friction which results from the reed cap being set too low. If the reed cap is low and a big warp shed is set, the top of the shed touches the reed cap when the loom is running and slubs result in this part of the cloth. This is one of the troubles which has puzzled many boss weavers. Slubs and snarls which form at different parts of the cloth usually are apparent in the filling and, if so, the filling requires tensioning.

5. *Rough Cloth.* When the feel of the cloth is very rough, it usually is caused by a faulty let-off movement or by weaving with the warp too slack. Another common cause is the use of emery- or sand-rollers which are too rough for the fabrics being woven. Loom cranks that are badly worn increase the eccentricity of the lay and often result in rough cloth.

6. *Cloth creasing on the roller.* This fault reveals a lack of uniformity in the grip of the receiving rollers. The sand- or emery-roller may require retinning, and sometimes the trouble is due to rust in the slots in which the receiving rollers revolve. If the temples are not equal in strength, the cloth will telescope on the roller.

7. *Shadow Stripes.* These, of course, are not defects, and this is merely a revelation of how the effects are secured. Some designer in days gone by evidently had a brain wave, for he decided to make use of opposite twists; by using alternating sections of warp yarn of opposite twist, he produced a shadow stripe effect. In a warp-face twill or sateen the effect is more pronounced than in the plain weave.

8. *Excessive shrinkage in finishing.* The shrinking fault, in many cases, is due to lack of allowance for contraction, but there are other causes. A coarse-reed fabric contracts more than a fine-reed cloth; a slackly woven cloth will stretch more than one tightly woven. When 2-ply warp yarn is used, it tends to "creep-up" more than single yarn when the cloth is in the finishing process.

9. *Overpicked Cloth.* When the cloth has too many picks per inch the take-up gears should be examined to see if the train is correct. Lack of grip in the receiving rollers and a faulty beat-up of the reed will result in overpicked cloth.

10. *Influence of Twist on Twills.* If prominence is required, arrange the twill wale to run opposite in direction to the twist in the yarn showing most of the cloth surface. A filling-face twill woven with Z-twist warp and S-twist filling would, therefore, run to the left. This will require a little thought before the principle is fully grasped, but it is worth studying because the weaving boss who understands will benefit by getting the maximum prominence of the wale in his twills. Makers of defective twills do not know this wrinkle.

11. *Cloth Splitting.* In bleaching, the tension is all on the warp threads, but in mercerizing, it is on the filling. Gray cloth is weakest near the selvages, both in warp and filling threads. Several factors contribute to this weakening of the cloth at the sides. The temple rolls tension the fabric and thus weaken it; the friction of the shuttle is another weakening factor; wrong counts of reed, old reeds which contract under the tension of the filling and thus cause the reed to fray the warp yarn, and excessive tensioning of filling all contribute to cloth splitting at the selvages during the bleaching process.

QUESTIONS & ANSWERS

Measuring Staple Length of Wools

Technical Editor:

We are told there are laboratory instruments for measuring staple length and percentage of each length in a given raw material. We know this has been done in cotton mills for many years, and have tried to have wool shoddies checked in the same manner, but without success. We think such information would be very helpful. For example, frequently the first test spool spun of a mix will show a low breaking strength. Often, by simply slowing down the card, breaking strength is materially improved. Probably, we are less severe as regards fiber breakage after reducing the card speed. Again, when picking rags we find some lots of the same rags dyed the same color and processed under the same conditions—supposedly—have different strengths when spun. This is undoubtedly also a result of fiber breakage. Any information you can give us on this will be greatly appreciated. (8772)

Progressive mills used mechanical stapling devices to assist in the analysis of wool top as regards accurate determination of staple characteristics. For many years mills using these devices did not know how to interpret the results so that the knowledge could be applied advantageously in manufacturing. Lenth of staple is only one of the valuable properties of a textile fiber, be it animal, vegetable, or synthetic. Length is only a relative term, its importance depending upon the fineness of the fiber. What would be excessive length in one quality of top would be inferior length in another. The stapling machine cannot determine quality and it does not reveal other desirable spinning properties such as are known to exist when the staple has a good draw or pull.

A good staple diagram can only be drawn by hand when the staple is long enough to be controlled. For short staples the use of a mechanical stapler is necessary because it holds the prearranged fibers in such a manner that the analyst can select the desired fibers commencing first with the maximum length and gradually working down to the shortest. The use of this stapling device for cotton proves that it can handle short fibers successfully. There would seem to be no reason why it cannot be so designed as regards the spacing of the faller bars and suitability of the pinning that it could be used to staple shoddy. To be of any value the results must be representative of the lot from which the samples were drawn. We recommend that the same procedure be followed as is recommended for making staple diagrams for cotton. As each draw is selected from the stapler, lay it on a velvet board of suitable color to form a contrast to the staple diagram. A careful examination of the staple diagram should reveal variation in staple length and quality—average and range. With reference to staple length, the comparison in the staple diagram as laid out on the stapling board indicates the number of fibers contained in any one zone. It is important to remember that comparing 1 in. fibers with ¼ in. fibers, there will be four times as many ¼ in. fibers as there are 1 in. fibers in equal percentages. When the short end of a staple diagram is examined the actual number of short fibers is of vital value.

Naturally the preservation of staple length is of first importance in the processing of fibrous material into yarn. If we preserve length we also preserve other valuable spinning properties. Stapling the product of successive operations should reveal the extent of damage to fiber length and indicate what may be expected as regards spin.

Trouble with Welt Lengths

Technical Editor:

I am inclosing a three-thread, 30-turn, left natural silk leg. All over the mill, this particular welt is running long on the left side, but when it gets to the seaming department the seamer has trouble with the right side being too long. Take the ends of both, splicing to the first leg narrowing; you will find it at least ½ in. long on the right side. If I straighten this welt out even, the right side will be at least 1 in. long.

We have had this trouble since we put a new lot of silk on the machines. Could it be the silk, the twist, or what? (8780)

Between the shadow welt and the first leg narrowing the silk leg measures approximately ⅝ in. longer on the left side; and this agrees with your finding that the welt was running long on that side of the knitting head. The section between the welt and leg narrowings is of practically the same width, and therefore not subject to variations which can occur while narrowing over a large number of needles. You are correct as to the other measurements, and the leg is longer on the other side between the splicing and the first leg narrowing. This difference may be caused by an uneven needle line, a worn or crooked verge-plate, stiff sinkers or jacks, in a slighter degree by uneven pressure of the jack springs, or a combination of some of these defects. The wide section of the leg may be stretched on one side by an uneven draw-off roll or winding on to the take-up straps.

There is no indication of any fault in the twist or the silk, which usually causes the leg to twist. Many knitters knit the welts with one of the take-up straps fastened to the welt bar at the center. One end of the welt bar may drag more than the other, and when both take-up straps are used, one may pull more than the other to make the welt appear one sided.

Possibly one side of the welt was stretched in some way while it was wet, and dried in that shape. We grasped the welt with one side in each hand and stretched it, and then found that the left side was longer than the other as it was when running. It may be well to investigate the conditioning of the silk to learn if the solutions have a tendency to hold the silk stitches in the shape in which they dry.

Scouring Knit Goods

Technical Editor:

Will you kindly give me a formula to scour a 50% wool, knitted tubular fabric which must later be washed and not shrink over 3% either in length or width? (8763)

A method which is being used by several mills for scouring this type of fabric is to scour the goods in rope or string form in an ordinary knit goods washer equipped with squeeze rolls. The goods are first wet out with warm water. Next they are scoured for ½ hr. at 140° F. in a scouring solution containing 3% of soap (dry basis) and 3% of soda ash on the weight of the fabric. The bath is then dropped; a fresh solution made up containg 2 to 3% of soap and the same amount of soda ash, and the fabric scoured for ¾ hr. at 135° F. The goods are then rinsed thoroughly until free from soap and alkali as indicated by testing with phenolpthalein. After rinsing they are extracted and dried on a loop dryer.

Knitting Army Undershirts

Technical Editor:

We would like to know what size lxl rib machine it takes to make the size 40 sleeveless summer undershirts being ordered by the army and weighing 3 lb. to the dozen. We would also like to know the cut of the machine being used and the size of yarn used. All our machines are 12 cut, ribbed machines, and we do not know if we can make these shirts or not. (8792)

We believe these shirts can be made on an 18 in., 12-cut machine, using 24/1 yarn. The cloth should be spread about 14½ in. and have about 32 courses per

in. This will give about 25 wales per in.

The standard measurements for a size 40 shirt are: width 14 in., length 33 in. That will give 924 sq. in. of cloth. The hem and the binding should make up for most of the weight taken out for the neck and arm holes. There are 1296 sq.in. per sq.yd. The weight of the cloth made on this machine with 24/1 yarn and 32 course per in. is .369 lb. per sq.yd.; hence 924 sq.in. will weigh about .2625 lb. There may have to be some slight adjustment of stitch one way or the other; this will have to be worked out by making up a sample garment and weighing it, then adding to or reducing stitches as necessary.

Cotton Warp Chafes

Technical Editor:

Occasionally we have to run a warp containing an extremely large number of ends, with the result that there is excessive chafing of the yarn in the reed. This causes packing back of the reed and makes it difficult to obtain a clean, open shed; resulting in many floats, especially on the underside of two-ply and tubular fabrics.

In our opinion, the most satisfactory way to correct this condition would be to size the warp. We would like, therefore, to inquire as to what sizing material could best be used and the method of application. Whatever sizing material is used must be one that is readily soluble, so all traces of it can be eliminated from the fabric during the wet finishing operation. (8610)

You are correct in your assumption that the cure for this situation is to size the warps. For warps of cotton,, 5% of size will be sufficient to bind the yarn. Such warps are best sized on a cylinder-type slasher, speed of which depends upon capacity of the drying equipment. The choice of the starch to be used in sizing these warps will be influenced by the count of the yarn in question. Many mill men prefer potato starch for yarns of 30s and finer, and corn starch for coarser counts. Some form of fatty matter will need to be used with the starch to act as a softener and lubricant. An easily removed type of softener is sulfonated tallow. This is available in concentrations containing 25 and 50% fatty matter, respectively.

In the situation at hand, we would select a thin boiling corn starch unless the yarns are extremely fine. To add 5% size by weight on a two-ply warp yarn would require about 75 lb. thin boiling starch, 7.5 lb. 50% sulfonated tallow, and 100 gal. water, to make 125 gal. of cooked size. Place starch and cold water in the cooking kettle; agitate for about 20 min.; bring to a boil in ½ hr.; then add sulfonated tallow and cook at a gentle boil for 1 hr. 15 min. Run the cooked size into the size boxes of the slasher; maintain at a temperature of 204° F.; run the warps through the slasher at a speed that will dry them down to 7 to 8% moisture content.

It has been stated that the sizing materials must be completely eliminated from the fabric in the wet finishing operation, but no mention has been made of what operations are included. If wet finishing includes a kier boil, almost any type of starch could be used, as it will be broken down and removed in this operation. If a continuous boil-out machine is used, it will be best to give the goods a diastatic enzyme treatment prior to the wet finishing, to help remove the starch. To remove the size without kier boiling, run the goods through a 3% solution of a diastatic enzyme held at a temperature of 150° F., squeeze the excess out, and then pile the fabric in a pit or roll up on a shell for several hours, to enable the enzyme to digest the starch. Next, wash or boil out the cloth; this should remove all the size and leave the fabric in condition to be bleached or dyed and finished.

Selvage Trouble in Knitting Hosiery

Technical Editor:

I am inclosing a few pieces of black cotton heel knit on a 24-section full-fashioned machine. I have trouble in forming a clean inside selvage in the black heel narrowing, as you can clearly see on the samples. The inside selvage needle of the splicing seems to cast the loop off during the narrowing operation; this selvage is otherwise perfect. Would you kindly advise, if possible, what could cause this trouble and recommend how to overcome it? (8776)

The samples submitted show a general unclean condition of selvage throughout the entire heel structure, both in high spliced heel and heel tabs. This indicates there is a lack of proper adjustment of carriers, snappers, tension rings, and all such devices associated with yarn control and selvages. We suggest, therefore, that the machine be carefully checked for correct setting of carriers, carrier stops, frictions, snappers, etc.

The specific trouble referred to as unclean inside selvage on heel tabs at the point of narrowing appears definitely to be one of improper setting or adjustment of coulier cam or motion during the narrowing operation. The fact that the difficulty occurs only during the heel narrowing is a definite indication that the coulier motion is at fault.

We would first advise carefully checking of the coulier brake band to see that it is properly adjusted and free from grease to avoid slippage. Sometimes an accumulation of grease between brake band and brake drum section of the gear causes coulier to slip. Gears should be kept clean at all times, and the brake firmly adjusted to avoid slippage and prevent backlash of coulier motion during the narrowing operation.

The coulier motion timing may be found to be incorrect. It should be accurately centered so that draw motion is equalized at both ends of stroke. The coulier rolls should be tested for proper clearance between the cam and rolls.

The machine should be timed so that three sinkers, no less, are still to come forward when the catchbar starts its forward movement. This is the best setting to avoid backlash in coulier motion when in the narrowing process.

Here again we would make specific reference to carrier frictions. Where friction blocks are too loosely adjusted or friction leathers have been allowed to harden or glaze because of lack of sufficient or correct lubrication, trouble is bound to develop. Improperly adjusted frictions often cause bouncing, especially on high-speed machines, creating rough selvages.

The rough selvages shown on both inside heel tabs indicates that the machine is narrowing first on the left and then on the right of coulier motion. Good practice proves that it is best to have the machine coulier on one side only during the narrowing operation, preferably on the right. When carriers are always on the right when narrowing, the bad selvage indicated will show on one heel tab only.

Shifting cams will also add to the problem if not gaged properly. They should be set with drop gages, so that camshaft shift and coulier work in perfect unison, as it is necessary that the high point on coulier cam and roll will coordinate for a positive stop of draw motion.

Government Mosquito Netting Oil-Spotted

Technical Editor:

We are weaving cotton mosquito netting on government contracts. We have found that in oiling and greasing the tricot bars, without fail some of the grease gets on to the cloth. When this happens, our dyer has a terrible time removing the grease, and in some instances fails to do so.

If you know of any grease that could be used in this instance that would be more easily removed, or if you know of a scouring agent that would positively remove this grease from the cotton, we would appreciate your advice. (8791)

From the data submitted, it appears that too much oil or grease is being used, with the result that it becomes dirty on the bars. It is probably this greasy dirt that is difficult to remove.

If a trial convinces you that this yarn will not run satisfactorily dry, you might try use of ordinary white paraffin, which might overcome the trouble. You could try this out by running a small section of the yarn over an ordinary candle. At any rate, the paraffin will smooth the yarn and will not dirty up the net.

LOOMFIXERS' MANUAL

COTTON SECTION—Chapter XV

By IVAR MOBERG

Box Motions

MANY COTTON LOOMS are equipped with box motions, the object of which is to call into active position the box containing the filling designated by the design. Cotton box looms are generally of the 2 x 1 or 4 x 1 variety; i.e., there are multiple boxes on one side of the loom only. This makes it necessary so to design the fabric that there will always be an even number of picks from a box, as the shuttle must return to the box from which it was first picked before a change of boxes can take place. For this reason, the chains are so driven that they turn one bar for every two picks.

A box motion consists of two main parts; namely, the mechanism which operates the boxes, and the head or multiplier which calls the boxes. The former consists of a star wheel or mutilated gear, plungers, and box levers; the latter consists of chains and a multiplying arrangement. Of the former there are several types; the Wyman motion shown in Fig. C91 is widely used. This motion has a dual mutilated gear which intermittently operates two small plunger gears. To adjust this motion proceed as follows:

Turn the loom over until the cranks on the crankshaft are on top center, just before the pick starts from the box side of the loom. Make sure the pick is from the box side and not from the plain side. Otherwise a bad smash will follow on the next box change, as two shuttles will be in operating position at the same time. If the loom has been running on production, tie a string to the chain bar currently under the box levers, then turn the chain by hand until a bar having a ball under each of the two box levers comes into position, thus calling the fourth box. If necessary, one can build a single chain bar calling the fourth box, and position it under the box levers.

Bring the first box into operating position and insert the plungers into the small plunger gears in such a manner that the short legs of the plungers are toward the camshaft center and the long legs on the outside. If this is not done, a mix-up of the filling pattern will take place when the loom is started. Make sure the plungers move freely in and out, as even a slight binding can cause failure of the boxes to change when called. It may be necessary to file the plungers before they will move freely.

Install the plunger-operating levers and check them for free movement. Snap on the lever springs of the plunger-operating levers and see that the spring tension is sufficient to force the plungers to their farthest position.

Insert the plunger-operating shaft in its bearings, and slip tight and loose plunger fingers on the same shaft. The latter finger is held close to the rear bearing by a collar. Make certain the shaft rotates freely.

Connect the plunger-lever links between the plunger levers and plunger fingers, taking care that they do not bind in either of the extreme positions. Tighten the setscrews in the fast plunger finger and the collar for the loose plunger finger, allowing $\frac{1}{32}$ in. side play of the plunger-operating shaft, so that it will not bind between the bearings.

Place the connecting-rod finger on the end of the plunger operating shaft and, after turning the latter until it puts the plungers in halfway position, set the connecting-rod finger in a horizontal position and tighten the setscrew. This will balance the finger so that it moves an equal distance above and below an imaginary horizontal line drawn through the center of the plunger-operating shaft.

So adjust the length of the front-plunger connecting rod that it will turn the plunger-operating shaft sufficiently to cause the front, or single-cell-lift, plunger to be moved in as far as it will go, without undue pressure against the front plunger-gear. Repeat this adjustment on the back-plunger connecting rod operating the rear, or two-cell-lift, plunger until the plunger is against the rear plunger gear.

Slip the dual mutilated gear on the end of the camshaft, lining it up with the rear plunger gear. So turn the dual mutilated gear on the camshaft that the last tooth will rest lightly upon the rear plunger. Then tighten the two setscrews in the gear.

Now turn the box chain by hand until the marked bar is again under the box levers. Then turn the loom one-half pick in reverse direction; this will bring the correct box into operating position

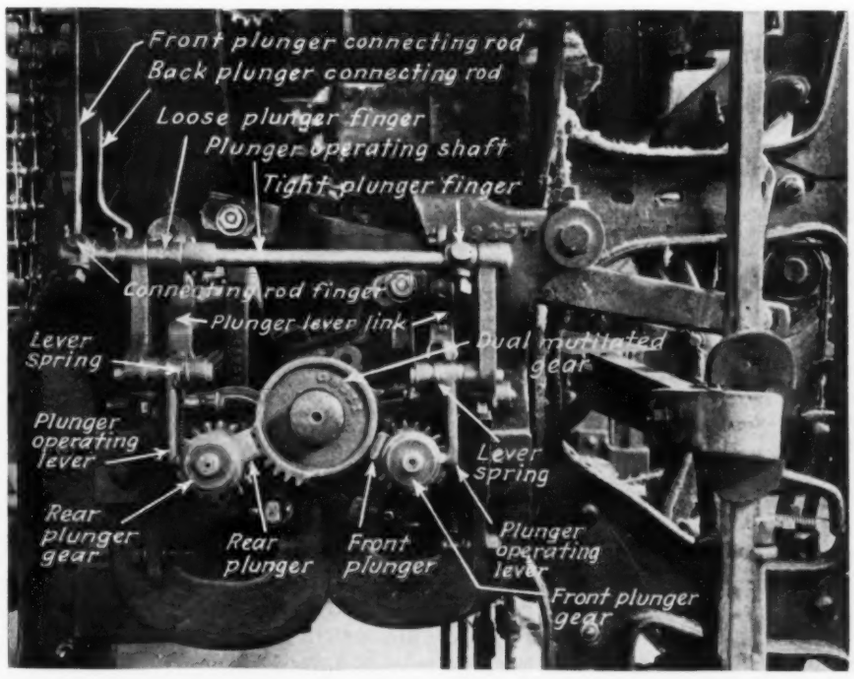


Fig. C91. Wyman box motion

—the original position before the adjustment was started.

In this description, the box motion has been timed at the finish of the box change. Some loomfixers make the timing of the box motion at the start of the box change, with the loom in protection. The writer's opinion is that it is preferable to time the box motion at the finish. The reason for this is that such a practice insures completion of box change in time for the shuttle boxes to settle down before the pick takes place. This is very important to a good pick following a box change. On the other hand, no harm can be done if the box change starts a little before or after the loom is in protection.

RAYON AND SILK SECTION—Chapter V—Continued

By H. E. WENRICH

The Lay Motion

CRANKARMS AND CONNECTORS often give loomfixers problems which require a great deal of thought. For instance, there are times when even the best fixer is in a quandary as to why a loom fails to bang off properly, or why layswords break unnecessarily, or some other equally vexing difficulty. When unable to locate the cause of the trouble immediately, or puzzled as to the reason for the breakage mentioned, look to the crankarms. There are many types of laysword and crankarm connectors. However, in general, fixes applicable to one type can also be applied to other types. In tightening crankarm bolts, use plenty of pressure so they will not work loose. Loose bolts often cause broken layswords. A dwell motion stand is generally found on wide looms. Its function is to give the idle pause to the lay, allowing the shuttle more time in which to complete its flight across the lay. It is secured at the bottom to the center of the laysword. The top front is fastened to the crankarm stand by means of a bolt; and the back end is attached to the crankarm.

Wood crankarms are preferable in some respects, as they allow a certain amount of "give" on a bang-off, and this helps prevent breakage. When wood connectors become worn, they should be replaced. Some adjustments may be necessary on the new connectors, such as filing out one of the ends so that correct length can be secured. On the other hand, some steel connectors are of a shock absorber type which helps prevent breaking of arms and layswords, as well as other parts on the loom. Many models of these steel connectors make use of V-shaped wedges for tightening, and, if necessary, wedges can be ground to shorten the lay sweep. When shock absorbers break, usually it is found that one of the bolts carrying the tensioning springs has made a clean break against one of the locknuts. To repair this, first remove the locknuts and release the springs. Then remove the complete arm from the stand and take off the locknut which fastens the bolt to the crankarm end. After that, the broken bolt can be readily replaced.

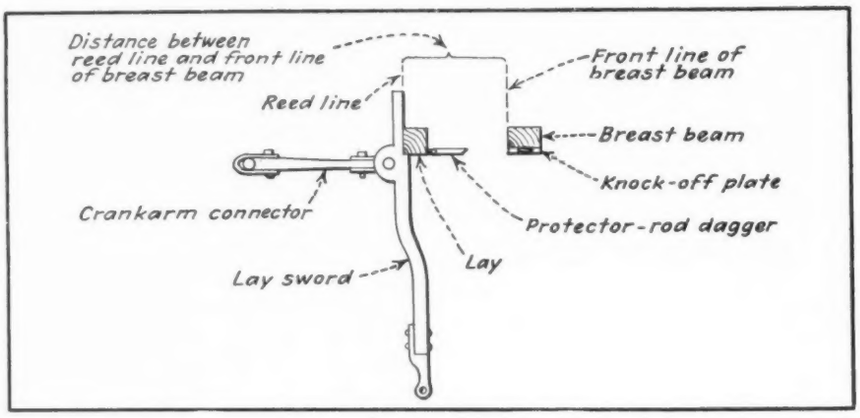


Fig. RS28. Method of obtaining correct length of crankarm connectors

In adjusting shock-absorber crankarm connectors, make sure the ends of the bolts do not stick out on the crankshaft side, as such bolts would strike against the loom frame, and possibly break off the arms and bolts.

Fig. RS28 shows how to obtain the correct length of crankarm connectors. Bring the laysword toward front center, so that the protector-rod dagger is forced into the knock-off bunter. The loom should bang off when the dagger strikes the bunter lightly. If it fails to bang off correctly—other parts being in proper adjustment—the fault is generally to be found in the length of these connectors.

The crankarm connector on the dead side should be the last to strike solidly. The knock-off end should so knock off the bunter that the brake is set as the dagger points bang solidly. Measure the dagger points and make sure the one on the knock-out side is at least $\frac{1}{8}$ in. longer than that on the dead side. When these points are correctly adjusted, bring the lay up from center and measure the length from the reed line to the front line of the breast beam. The knock-off side should be at least $\frac{3}{32}$ in. longer than the dead side.

By bringing the lay forward slowly and seating the dagger ends gently into the bunters, so that the loom will not knock off the brake handle, one can determine the exact length to which to adjust either one of the crankarm connectors.

When mounting new warps, the lay should be given a complete inspection. All bolts which have worked loose should be tightened and any other necessary adjustments made. Hold the laysword at the top and push back and forth to ascertain whether there is any play in the crankarms. Remove any play which is found, as loose arms are a prolific cause of shires in woven cloth.

To tighten a loose crank arm and connector, first loosen the strap bolts slightly. Then move the lay to front center, blocking it solidly between the breast beam and the front of the lay. With a light hammer, tap the strap over the crankshaft on the back end, and tighten the strap bolt. Next, force a narrow chisel or heavy screwdriver between the laysword and strap, at the lay end, and tighten the bolt at that end. Remove all play, but do not bind the connectors. To tighten crankarm straps of the take-up type, merely turn the adjusting nuts.

There is not a great deal of fixing required on crankarms and connectors unless they are neglected. However, once a fixer fails to keep bearings oiled and pays little or no attention to this important part of the loom, he is likely to have work pile up on him when least expected. All vital parts should be carefully and frequently checked.

(*To be continued.*—Editor)

FIXING HOSIERY MACHINES

CIRCULAR MACHINES—Chapter VIII (C't'd) Cylinders and Walls

By JULIAN W. HUGHES

SCOTT & WILLIAMS, INC., recommends the following procedure for replacing broken walls in inserted cylinders:

"Before starting to replace a wall in a cylinder there should be at hand a piece of string solder hammered down to a thickness that will enter the slot after the old wall is removed, some good soldering flux, a small drift for driving out the old wall, a hammer for tapping new wall into place, a Bunsen burner for heating the cylinder to melt the solder, walls of the proper serial number, and an equaling file of the proper thickness to fit the needle slots of the cylinder. The actual steps are:

"A. Remove cylinder assembly from machine. Remove sinker cam ring, outside sinker ring, inside sinker ring, needles, and sinkers from cylinder. With a small Bunsen burner, heat the cylinder on the inside at point where wall is to be removed until the solder is seen to be softening. Now with a small drift drive the wall from the slot lengthwise. Do not attempt to pull it out rapidly. If the cylinder is one of the old style with the brass top soldered in, it should be held in a vise with a piece of soft wood placed between the brass top and the vise jaws to avoid marring the top. After the solder has been softened with a Bunsen burner, the cylinder should be lowered in the vise so that the pressure of the jaws will come in the center of the top so so that it will not become warped or separated from the cylinder.

"B. After old wall is removed, take a piece of solder hammered down to the thickness of the wall slot; and while cylinder is still hot, rub this piece of solder in the slot to deposit a film of solder. [It is important to spread the solder evenly before putting the walls in place. If any solder is forced into the slots, it should be completely removed; otherwise it will interfere with the movement of the needles.]

"C. Now take a new wall and put a thin coat of soldering flux on each side and insert it in the slot. Be sure to use new walls of the same serial number as is stamped on the bottom of the cylinder.

"D. See that the new wall is forced down to the bottom of the cutting by slight blows on the top edge.

"E. After permitting the cylinder to cool for a few minutes, file off the top of the wall until it is flush with the adjacent walls. Burr the sharp edges of the wall. With a slot file, file surplus solder from the needle slots each side of newly inserted wall. Brush the cylinder out clean with an ordinary brush and reassemble. The cylinder is now ready for use."

Various steps in the procedure are shown in Fig. C 14.

KEEPING CYLINDER BALANCED. There are several precautions which must be taken to keep the cylinder balanced. First, the cam and bevel-gear thrust should be kept at a minimum. The thrust caused by the cams contacting the needle and jack butts tends to produce uneven wear and vertical play of the bevel gear driving the cylinder. The thrust from the bevel gear on the main driving shaft to the cylinder bevel gear tends to produce uneven wear and side play of the bed plate; under normal conditions, however, the wear on the bed plate is negligible. However, whenever the bed plate is worn enough to allow the slightest bit of play in the cylinder gearing, the cylinder will

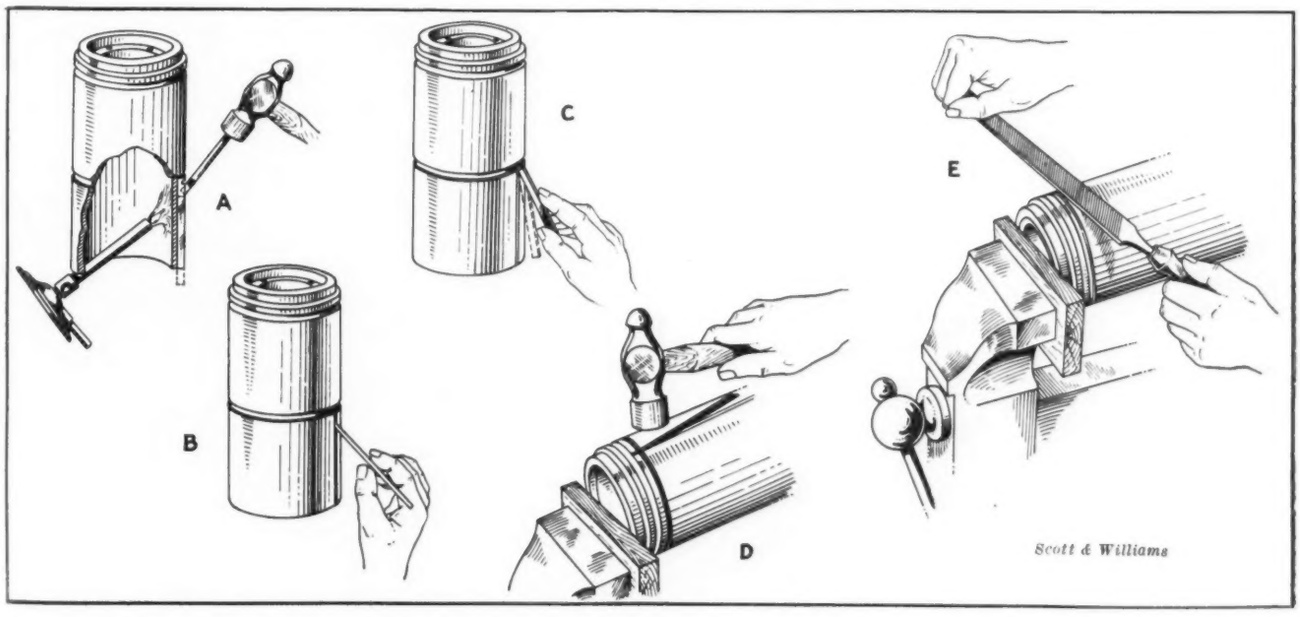


Fig. C14. Replacing broken walls in spiral-float machine cylinders: *A*, heat cylinder on inside at point where wall is to be removed; drive wall from slot lengthwise; *B*, hammer down a piece of solder and rub it in the slot; *C*, insert wall in cylinder by starting one corner and forcing it in gradually; *D*, force down new wall to bottom of cutting by slight blows on top edge; *E*, after cylinder has cooled, file off new wall to level of the adjacent walls

vibrate and disturb the settings of the machine. Under these conditions, any one of several undesirable things is likely to happen. Therefore, not only should the bevel-gear thrust be kept at a minimum, but also the bed plate should be checked periodically to make certain that it is not wearing unduly.

Insufficient lubrication and excessive friction on the needles may increase the cam thrust enough to cause rapid wear at the gear ring. Lint and foreign matter becoming jammed between the teeth of the bevel gears will also increase the thrust enough to cause rapid wear here. To keep the cylinder balanced the fixer must insert needles with care, flexing them as little as possible, keep them well lubricated, and keep the bevel gears clean and the gear ring well lubricated.

FULL-FASHIONED MACHINES—Chapter VIII. The Catchbar

By WALTER A. SIMOND

THE CATCHBAR ADJUSTMENTS must be absolutely accurate to make good selvages, and they are alike for both the initial setting and subsequent realignments. They should be checked periodically, since it is easier and less expensive to keep the catchbar from flying off than to straighten or discard bent sinkers, over which the carrier tubes have been dragged.

The following method for making the adjustments is recommended in the January, 1934, issue of the *Reading Record:* "(a) Equalize the pressure on all cam rollers on the round part of the cam and gage the catchbar setting by using Gage No. 2511 for setting the distance between the sinkers and the front bed. (b) Superior selvages are always produced when the catchbar setting is just right. If it is set to come forward the proper distance, the slack will be removed and a better fabric will result. Therefore, set the catchbar motion so that when the sinkers and dividers are all the way forward, in the regular knitting position, the clearance between the verge plate and the inside of the sinker-back will be equal to the thickness of a sinker corresponding to the gage of the machine."

In a realignment of the catchbar, the position of each catchbar cam should be checked with the timing gage, and then the cam rollers should be examined for flats on their rims. When gaging from the front bed, both sides of each joint in the catchbar should be tested, as a mismatched or loose joint will cause trouble. The best way to match these joints is to put a short piece of steel which fills the sinker groove across each joint. Of course, the tension of the springs on the back catchbar levers must be sufficient to prevent the catchbar from bumping the sinkers against the verge plates.

THE CATCHBAR UP-AND-DOWN movement should be set so there will be a clearance of 0.031 in. above the sinkers when the front catchbar roller is on the high part of its cam. The catchbar should come down smoothly, and if the fixer can feel any jar by placing a finger on any of the arms, 9 (Fig. F14), over the lifters, 7, while the machine is knitting, it is a sure indication that the timing or adjustment is wrong.

While the catchbar may stay on, with the machine running without knitting, when it is not set quite accurately; it may fail when the pressure of dividing the stitches is added. In such a case, find the error and correct it, but do not crowd the catchbar against the verge plates; instead, relieve the dividing pressure slightly with the readjustment of the stitch-regulating motion by advancing the stitch cams only a little distance.

Chap. V and VI Corrections

The accompanying sketch, Fig. 11, showing correct setting of spring bars, should be substituted for Fig. 7 on page 84 of the January issue. Caption F8 should be changed to Fig. F12. References in text on pages 83 and 84 to Figs. 7 and 8 should be changed to Figs. 11 and 12, respectively.

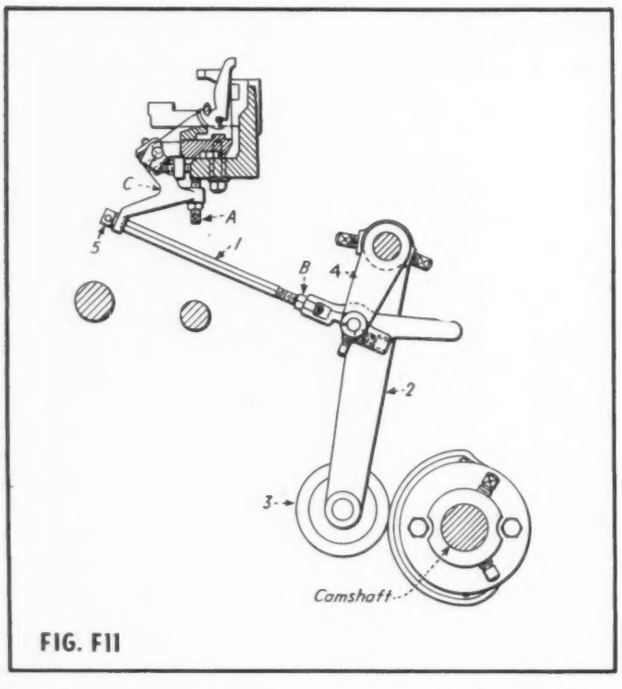
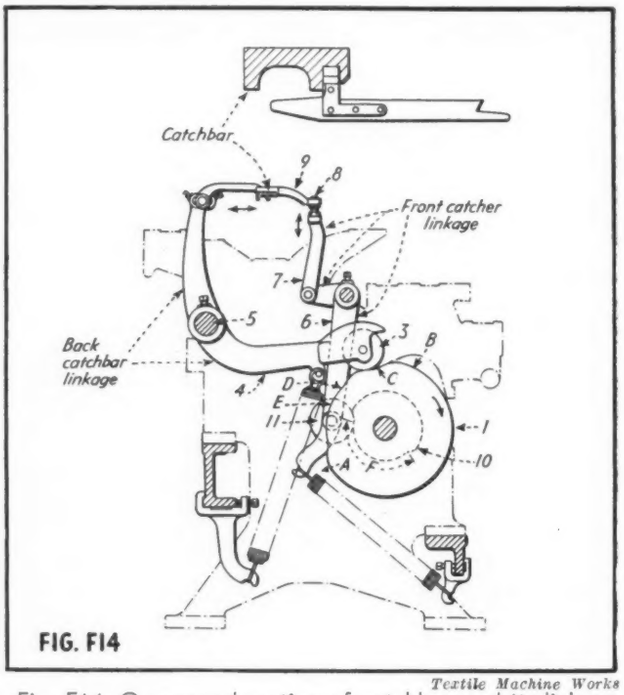


Fig. F11. Diagram showing correct setting of spring bars



Textile Machine Works

Fig. F14. Compound motion of catchbar and its linkage

NEWS OF THE MONTH

A. C. M. A. to Meet at Augusta

The 45th annual convention of the American Cotton Manufacturers Association will be held at the Bon-Air Hotel, Augusta, Ga., April 24 to 26. The regular pre-convention meeting of the Board of Government will be held on April 24, and some type of informal entertainment will be planned for that evening.

The sessions of the convention proper will open on April 25 at 10 a.m. At least two speakers of national importance will appear on this program, the theme of which will be: "Some internal and external problems in the national defense program influencing the cotton textile industry." The afternoon will be devoted to golf and the banquet will be held that evening. The business session will be held April 26 at 10 a.m.

Knitting Week in Philadelphia

The National Association of Hosiery Manufacturers will hold its 37th annual meeting in Philadelphia on Wednesday, April 23, at the Commercial Museum. As usual, this is during the week of the Knitting Arts Exhibition. It is hoped by that time to have available a draft of the proposed trade-practice rules for the hosiery industry so that discussion of these rules may be a feature of the meeting.

The Underwear Institute will hold its annual meeting on Thursday, April 24, also at the Commercial Museum. The business session is scheduled for the morning, followed by the luncheon with a featured speaker.

The Knitting Arts Exhibition itself will run from April 21 to 24. It will open each day at 10 a.m. and will close at 7 p.m. on Monday, at 10 p.m. on Tuesday and Wednesday and at 7 p.m. on Thursday.

S.T.A. Convention at Myrtle Beach

Dates for spring meetings of the various divisions of the Southern Textile Association were set at a recent meeting of the board of directors. The annual convention will be held at the Ocean Forest Hotel, Myrtle Beach, S. C., June 13 and 14.

Gaston County Division will meet March 21 in Gastonia, N. C.; Piedmont Division, April 12 in Charlotte, N. C.; South Carolina Division, May 10 at Drayton Mill Community House, Spartanburg, S. C.; Northern North Carolina-Virginia Division, April 19 at a place to be selected later; Eastern Carolina Division, April 26 at a place to be decided later. No plans were made for the meeting of the Master Mechanics Division.

English Machinery Group Surveys South America

Textile machinery manufacturers of Great Britian are doing what they can to maintain and enlarge their business in South American countries. Hugh A. H. McGill, of Oldham, England, is on his way home after a tour of several months in South America representing the Textile Machinery and Accessories Export Group of Manchester. Mr. McGill is the active executive of Platt Bros., Ltd., but he made the trip not as a representative of his firm but rather as representing the group. This group is one of the units of the Export Council, with headquarters in London. Mr. McGill expressed a desire to cooperate with American textile machinery manufacturers in the South American field. He recognized the difficulties of business in South America due to high tariffs and embargoes in the various countries, based on their strong sense of nationalism and the desire to make their countries as nearly self-sufficient as possible. He found that the German manufacturers, through subsidized currency and fake credits, had developed some buying habits among South American textile manufacturers which would have to be modified to meet English and American ideas.

To take the place of burlap previously bought from British India he discovered that Brazil is developing a stem fiber from the caroa plant. Similarly, Colombia is pushing the use of pita, a leaf fiber. For large-scale development of these two fibers there is a notable lack of adequate machinery to degum and decorticate. Mr. McGill found that Brazil was using considerable cotton fabric for wrappings on its cotton bales. He reported a growing interest in some localities in developing fiber flax. In the Argentine he found an embargo on the importation of knitting machinery, and he started what may be a successful move to permit importation of these machines under controls set-up by Argentine officials.

Where no other barriers exist, the important matters of

MISS ALICE ERLE BEASLEY of La Grange, Tenn., recently selected over 38 other contestants as 1941 "Maid of Cotton", embarked from Miami Feb. 24 on a three-months' air tour which will take her to 28 major cities. At each she will present a cotton fashion show collaborating with Miss Ruth Witmer, stylist for the Lux company. Sponsored by the National Cotton Council, the Memphis Cotton Carnival Association, and the Cotton Exchanges of New York, Memphis, and New Orleans, the "Maid of Cotton" is the official fashion ambassador of the raw-cotton industry. Her tour will end in time for her to officiate at the Memphis Cotton Carnival, May 15 and 16. Miss Beasley's cotton background is an authentic one, for when off duty, she lives with her parents in their anti-bellum home on a 6,000-acre cotton plantation near La Grange, Tenn.

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credit and exchange are often complicated puzzles, which Mr. McGill believes can be solved. British shippers cannot extend credit of longer than six months, by Government order, but manufacturers are permitted to turn out sufficient machines for export, and shipping to South America is said to be adequate to insure satisfactory deliveries.

40c Minimum for Wool Carpet Workers

On Mar. 1 the Wage-Hour Administrator approved the recommendation of the Carpet and Rug Industry Committee No. 12, setting a minimum wage of 40c for workers in spinning, dyeing, finishing or processing carpet yarns which contain any carpet wool, and manufacturing, dyeing, finishing or processing of rugs or carpets containing any kind of wool. It provides a minimum of 35c for workers in the "other than wool" division. The order became effective Mar. 17.

Cautions on "Nylon" Wording

National Association of Hosiery Manufacturers warns against labeling hosiery "Nylon Reinforcements in Heel and Toe" without disclosing other fiber content. As this Nylon reinforcement amounts to about 2%, it should be described, for example, "Cotton and 2% Nylon." Criticism of use of Nylon popularity to promote hosiery containing only small amounts of Nylon, is heard.

Yarns and Work Assignment Studied

Causes and prevention of defects in combination yarns, and methods of determining most efficient and economical work assignments in textile mills, were discussed at a meeting of American Association of Textile Technologists, held March 5, in New York. The speaker on the first topic was

1941 NATIONAL COTTON WEEK POSTER—The campaign to make 1941 cotton week the greatest single merchandising event in cotton's long history got under way March 3 as several thousand advance proofs of the 1941 poster were sent to representatives of 150,000 cooperating wholesale and retail outlets and to 6,000 civic, trade and public groups throughout the country.

ROSE PARADE PRINTS, inspired by and named for nine of the outstanding roses of 1941, are being featured by Mayflower Dress Co., New York, in a group of Sanforized shrunk lawn frocks to retail at $3.95 and Crown Tested spun rayons to retail at $6.50 and $7.50. The prints take their inspiration and names from nine roses: Rose Brampton, Eclipse, Betty Prior, Adoration, Starlite, Rose d'Or, Rome Glory, Snowbank and Dr. Nicholas. The fabrics, designed and created by Ameritex Co., New York converter, are shown in four and five color combinations. Further novelty in the promotion is achieved through the cooperation of Jackson & Perkins, the world's largest rose growers, who will send a rose bush and booklet on roses to every purchaser of the dresses upon receipt of the special hang tag, with the name and address of the customer. Extensive plans have been formulated to present "Rose Parade" frocks to the public at the same time that the roses are shown at the spring flower shows in the various cities throughout the country.

C. W. Bendigo, superintendent of throwing at Judson Mills, Greenville, S. C. The second subject was discussed by H. O. Deuel, a textile consultant, of Elmira, N. Y.

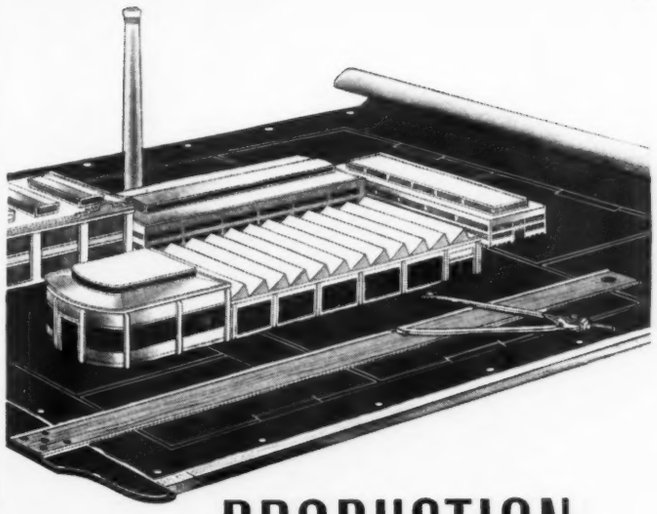
At another recent meeting of the association new methods of evaluating textiles was the subject of an address by Prof. E. R. Schwarz, of Massachusetts Institute of Technology. All three of the speakers have been frequent contributors of articles on technical subjects in TEXTILE WORLD.

A Future Contract for Grease Wool

Trading in grease wool futures began on March 17, under the auspices of the Wool Associates of the New York Cotton Exchange with the help of Boston trade interests. It was expected that the new contract will be of great value to the wool industry, as it broadens the application of the policy of hedging to a large part of the industry, whereas wool tops futures have had a relatively narrow market, although touching large volumes in recent years. It is believed that the problem of basis grades and deliverable qualities under the grease wool contract has been satisfactorily solved. The wool tops futures trading will continue as in the past.

American Woolen Nets Over $3,000,000

The annual report for the American Woolen Co. covering 1940 shows a net profit of $3,154,464, compared with net profit of 1939 of $2,243,895, a gain of 40%. Net sales



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starts at the drawing board

The swift, smooth flow of production evolves from the considered analysis by the Engineer; is born on the drawing board and translated, under his stewardship, through the successive steps of location, layout, construction and erection of equipment—all achieved through the scheduled and synchronized flow of materials and work—an accomplishment that has its roots in training and experience.

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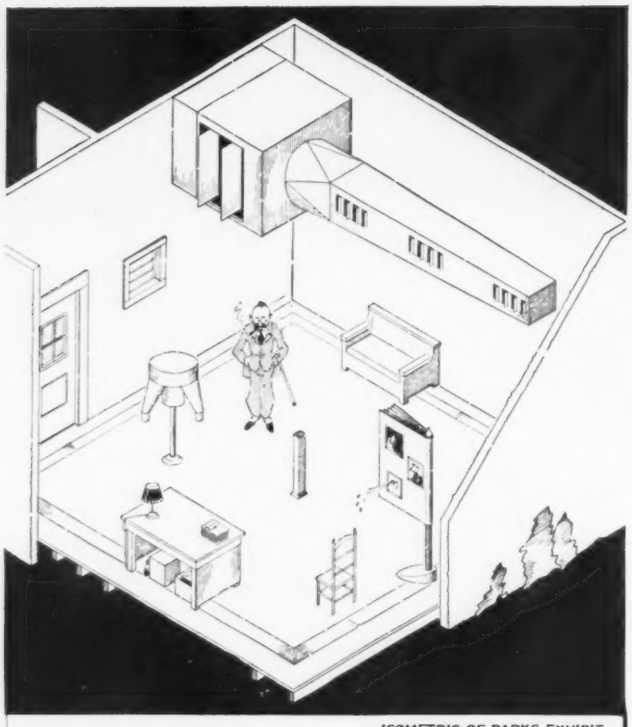

ISOMETRIC OF PARKS EXHIBIT

WHAT THE BLOOMIN' ELL ... AND WHY

They are adding an ELL at the Greenville Show . . . for Parks-Cramer Company.

The Southern Textile Exposition started with a main building. Later came an annex. Now an ELL.

For our purposes, spaces under the main top . . . or even in the annex . . . are too restricted. Air Conditioning the whole building is out of the question.

So . . .

In the coming textile show at Greenville, March 31 to April 5, you will find us in an ell, attached to, and entered from our booth in the annex. Among other things, a real Airchanger system will be in full operation . . . just as it would operate in your mill.

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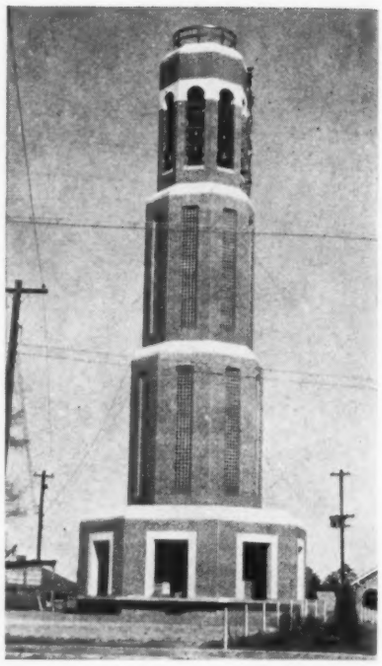


CALLIE SELF BELL TOWER adjacent to the Callie Self Memorial Baptist Church, erected near Greenwood, S. C., to the memory of his mother by James C. Self, president of Greenwood, Mathews and Ninety-Six cotton mills. The church was dedicated last month with a special service led by Dr. George W. Truett, internationally-known Baptist minister. An interesting feature of the service was the playing of a number of hymns on the carillon of 31 bells in this tower. The carillon was purchased from the Netherlands Government by Mr. Self and brought to Greenwood in 1940. These chimes, comprising one of the few electrically-operated carillons in the western world, were placed in the Netherlands Building at the New York World's Fair in 1939. The 87½ ft. bell tower is located at the rear of the church. In addition to a large auditorium, the church has facilities for educational and recreational work. Sometime ago Mr. Self erected a similar church for the Ninety-Six Cotton Mills community.

for 1940 totalled $76,563,111, a gain of 18% over the 1939 volume of $64,935,976. Moses Pendleton, president, reported that since June the company had been awarded $54,732,022 in Government contracts. Government billings in 1940 amounted to $22,231,406.

American Viscose Sold to U. S. Group

Available just as this issue went to press was news that the British-owned American Viscose Corp. had been sold to an American banking group. Its assets are reported at $100,000,000. The bankers will advance $40,000,000 cash and make further payments when shares are sold to American investors. Sir Edward Peacock, of the British Treasury, arranged the sale. The bankers said no changes in management were contemplated.

The New "Crepe-de-Chine" Hosiery

Hosiery of new crepe-de-chine twist is being offered in three- and four-thread construction, 45-gage, at 89c. a pair, retail. There is also a version to retail at $1.00. Whereas grenadine yarn has twist in the completed yarn which is in opposite direction to that in the component strands of that yarn, and whereas previous crepe yarn for hosiery was customarily made by plying two strands containing opposite twists, the "crepe-de-chine" yarn contains twist in only one direction. Recent advertising claims for this hosiery include: "elasticity is greater, snag resistance is greater, texture is smoother, appearance is sheerer."

Record Attendance at Wool Trade Dinner

The 27th annual banquet of the Boston Wool Trade Association brought together at the Hotel Statler, Boston, a record attendance of 1200 wool dealers, manufacturers, and others on Feb. 6. Percy E. Sheldon, president of the associ-

ation presided. Among the guests was Governor Saltonstall of Massachusetts, and the chief executives of numerous allied trade-associations, and of several top-ranking companies.

Union Asks Apex Arbitration

The Philadelphia Branch No. 1 of the American Federation of Hosiery Workers has petitioned Court of Common Pleas, Philadelphia, to order settlement by arbitration of the claim of Apex Hosiery Co. against the union and union officers for damages occurring during a sit-down strike in the spring of 1937. This case was taken through Federal Courts to the U. S. Supreme Court and is now making its appearance in the State Court.

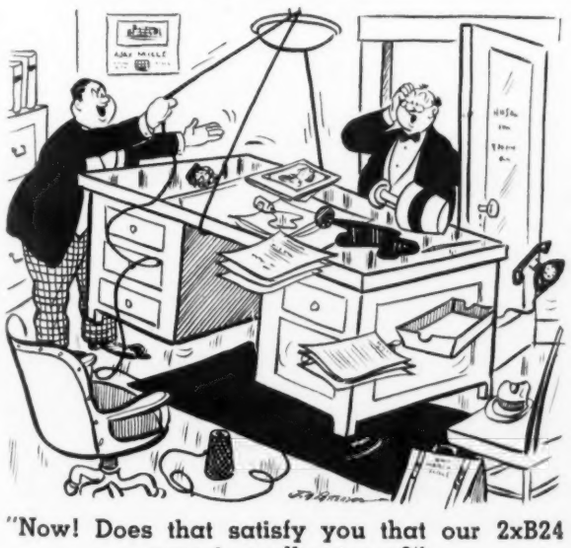
American Woolen, Pacific and Arlington Will Raise Wages

The American Woolen Co. will advance wages in all its mills on May 12 by 10% and at the same time set up a 40¢ minimum. This move was made public when a new, two-year contract was signed by the company and the Textile Workers Union of America (CIO) on Mar. 6, which contained those provisions and also collective bargaining clauses outlawing strikes and lockouts and providing for arbitration, this contract applying to the seven mills of the company in which the union has been designated as the bargaining agency. In these seven mills are 15,000 of the company's 28,000 employees. The worsted division of Pacific Mills and the Arlington Mills, Lawrence, Mass., employing 5,500 and 6,500 respectively, also announced 10% wage advances on Mar. 6, effective May 12. Other mills are following suit.

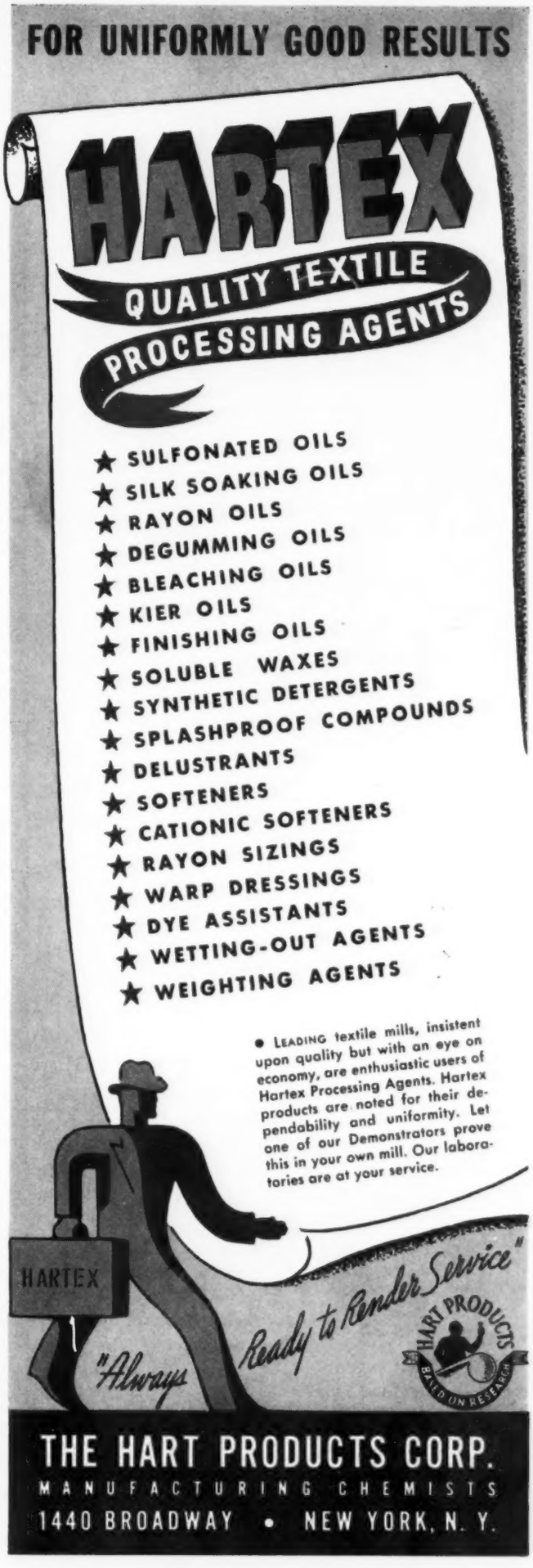
Textile School Alumni Hold 40th Annual Banquet

Two hundred former students of Philadelphia Textile School attended the 40th annual banquet of its Alumni Association, held Feb. 28, at Philadelphia. Principal speaker was Harry Collins Spillman, of National Association of Manufacturers. Clarence L. Ederer, president of the

TEXTILE MILL SIDELIGHTS—No. 22



"Now! Does that satisfy you that our 2xB24 yarn is really strong?"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★ KIER OILS
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★ SOLUBLE WAXES
★ SYNTHETIC DETERGENTS
★ SPLASHPROOF COMPOUNDS
★ DELUSTRANTS
★ SOFTENERS
★ CATIONIC SOFTENERS
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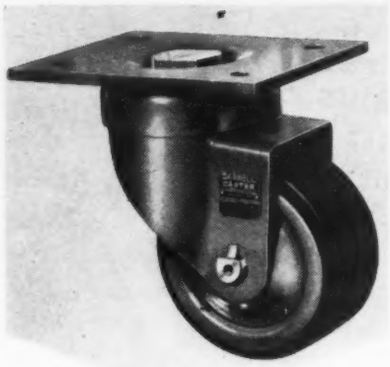
THE HART PRODUCTS CORP.
MANUFACTURING CHEMISTS
1440 BROADWAY • NEW YORK, N. Y.

Industry looks to

DARNELL CASTERS & E-Z ROLL WHEELS



for *Dependability..*

There is a type of Darnell Caster or Wheel for every kind of use and floor. Made for light, medium and heavy-duty service, you are sure to find in the Darnell line the exact caster or wheel to meet your individual requirements.

- Reduce Floor Wear to a minimum.
- Increase efficiency of employees.
- Eliminate wracking of equipment.
- Save time, speed up production.

DARNELL CORPORATION, LTD.
BOX 4027, STA. B, LONG BEACH, CALIF.
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alumni group, was toastmaster. Brief talks were made by Dr. E. W. France, retired director of the school; Bradley C. Algeo, former alumni president; Theodore Heyward, of Swift & Co., who read a report from Dean M. Earle Heard, who was ill and unable to attend; and Fred. Stolzenberg, of Sidney Blumental & Co., president of the Class of 1916, which celebrated its 25th reunion at a reception following the banquet.

For an N. C. Vocational School

J. M. Volger, representative in the N. C. General Assembly from Mecklenburg County, is introducing a bill for the establishment in or near Charlotte, N. C. of a State-supported textile institute. The institute will be a straight vocational school where basic and practical courses in textiles can be given to prospective mill operatives. Mr. Volger proposes that $100,000 building fund be set aside for the establishment, and an annual maintenance of $100,000 be provided.

Textile Chemists Meet

The South Central Section of the American Association of Textile Chemists and Colorists held its regular meeting at the Read House, Chattanooga, Tenn. Feb. 8, with approximately 200 members and guests in attendance. Technical papers were presented by Paul Logue of Monsanto Chemical Co., St. Louis, Mo., on the uses of sodium phosphates in the textile industry, and Scott Althouse, Althouse Chemical Co., Reading, Pa., who spoke on coal tar derivatives, showing charts and experiments.

Officers of the section are: Fletcher Kibler, chairman; Jack Anderson, vice-chairman; Frank Murphy, treasurer; and Joe T. Bohanon Jr., secretary.

Basketball Tournament Largest in History

With 84 teams entered, the 21st annual Southern Textile Basketball tournament had its biggest season in history early this month. The event took place in Textile Hall, at Greenville, S. C., where the Southern Textile Exposition will be held later this month. Winner will be announced in a later issue.

18 yd. of Rayon Fabrics per Person Used in 1940

"The rayon consumed in America last year amounted to the equivalent of 18 yd. of apparel fabric for every man, woman, and child," declared John A. Spooner, advertising manager of American Viscose Corp. at a textile clinic for members of the New York Advertising and Selling Course, on Feb. 24. Mr. Spooner stressed the rapid growth of the U. S. rayon industry. "Ten years ago," he said, "the figure was less than 4 yd. per person."

Textiles Firm; Many Lines Scarce

Cotton goods were in healthy demand through February with numerous active spots. In print cloths 39-in. 68x72s was a feature of the buying, 6¾c. being made for April delivery. For 4-yd. 80x80s mills were asking 7⅞c. with some makers waiting for the market to reach 8c. On certain types of drills and duck, nearby deliveries are unavailable since all production is going into Government use. Combed yarn specialties were scarce.

Wool goods deliveries were the criterion of the moment and manufacturers were doing very little in making open offers of new lines. Manufacturers are doing the best they

TEXTILE CALENDAR

Southern Textile Exposition, Textile Hall, Greenville, S. C., March 31-April 5, 1941.

Alabama Cotton Manufacturers Association, annual meeting, Admiral Semmes Hotel, Mobile, Ala., Apr. 17 and 18, 1941.

Knitting Arts Exhibition, 37th annual show, Commercial Museum, Philadelphia, April 21 to 24, 1941.

Greater New York Safety Council, 12th annual safety convention and exposition, Hotel Pennsylvania, New York, April 22 to 25, 1941.

American Cotton Manufacturers Association, annual convention, Bon Air-Vanderbilt Hotel, Augusta, Ga., April 24 to 26, 1941.

Textile School of North Carolina State College, style show, Raleigh, N. C., April 24, 1941.

Phi Psi Fraternity, 38th annual convention and exhibit, Providence-Biltmore Hotel, Providence, R. I., May 16 and 17, 1941.

National Cotton Week, May 16 to 24, 1941.

Cotton Manufacturers Association of Georgia, annual meeting, Cloister Hotel, Sea Island, Ga., May 29 to 31, 1941.

Southern Textile Association, annual meeting, Ocean Forest Hotel, Myrtle Beach, S. C., June 13 and 14, 1941.

American Association of Textile Chemists & Colorists, annual meeting and convention, Carolina Hotel, Pinehurst, N. C., Oct. 31 and Nov. 1, 1941.

can in the face of large wool consumption and limited available yardage for civilian needs, to keep prices down. The Government seems to take the ambiguous attitude of doing everything it can to boost the price of domestic wool, while at the same time frowning on any upward move in the price of piece goods. Wool tops were exceptionally strong through the month and closed with a spot price of $1.30.

Silk picked up during February after a period of several months with little price movement, and Double Extra Cracks 78% advanced to $2.75. This is a gain of some 20 c. over the figure at which the market was dragging along. Strength was due to nervousness over the Far East situation rather than to any pronounced change in the market. Grade D at Yokohama advanced to 1440 yen.

Rayon yarn producers found their customers anxious for April deliveries when the books were opened at the end of February. If rayon needed anything additional to strengthen it, some argument should be found in the increase in raw silk prices which has recently taken place. Also, there has developed a somewhat unexpected war-time use for rayon in the clothing of American parachute troops with a cotton-back rayon twill. Finished rayons are strong, with good consumer demand. Prospect of higher printing rates is an added stimulant. Spun-rayon demand continues to expand. The American Viscose Corp. reduced its prices on high tenacity of dull luster viscose staple fiber.

Hosiery men are finding considerable interest in the new crepe-de-chine silk stockings. The advance in raw silk has not created a flurry in hosiery, and the center of interest remains in the lower-priced lines while Nylons fill the higher brackets. Highly-colored stockings for campus wear by young women are a novelty which some hosiery agents expect to expand into the general trade. These are "over-the-knee" stockings and they are following the color trends which have been evidenced in knee-length and shorter hosiery for some time. Seamless mill agents are moving from the Worth St. district to Fifth Ave. near 34th St.

Underwear manufacturers believe that in the near future distributors will have to change their long-established price brackets on a number of staple items, particularly in the lower ranges, because of the higher cost and resulting higher prices from first hands. Mills are well sold up, are running full capacity, and letting buyers come to them.

Outerwear manufacturers are making progress with the theory that knitted materials are suitable for all clothing

You get cleaner caustic— You save handling time— with new Penn Salt tank cars

Just put in service by Pennsylvania Salt Manufacturing Company is a fleet of new caustic soda tank cars . . . built for your benefit . . . to bring you cleaner caustic and to cut your handling costs.

CLEANER CAUSTIC SODA—because each new tank car has a protective lining, special draining plates, and caustic resistant valves and interior fittings. Steam heating coils do not contact the caustic soda—eliminating contamination from this source.

QUICKER HANDLING—because new insulated design assures you of *fluid* caustic during cold weather, while more accessible connections also help to speed unloading.

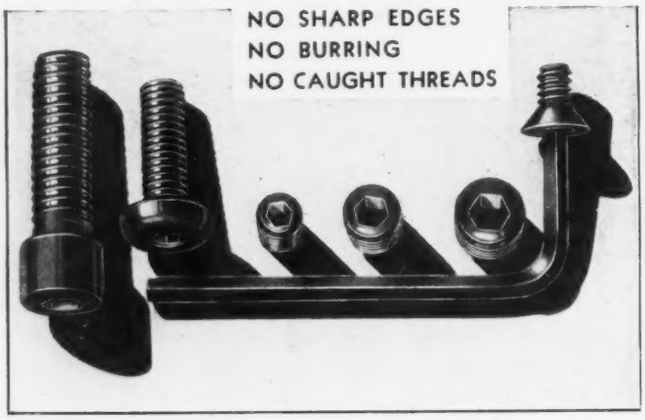
EASIER, SAFER UNLOADING—because unloading fittings are fewer and more easily operated, and each car is equipped with a dome safety platform and guard railing to protect your workmen.

Write today for full information on how you can profit from the cleaner caustic soda available in these new improved tank cars. Pennsylvania Salt Manufacturing Co., Widener Bldg., Philadelphia, Pa.—New York • Chicago • St. Louis • Pittsburgh • Tacoma • Wyandotte.

PENNSYLVANIA SALT
MANUFACTURING COMPANY
Chemicals

Cut LOSSES from PULLED THREADS with ALLEN

HOLLOW Hex Socket SCREWS



ALLEN Hollow Hex Socket Screws, specially-developed for the textile industry, will cut your losses from pulled threads because of these structural features:

1. The hexagonal socket, into which the key fits snugly, cannot burr even though frequent adjustments are made.

2. The screws are chamfered at the point, outside edge of head and top edges of socket. No exposed surfaces have sharp edges. Heads are *smooth* all over.

3. Once set up, ALLENS will stay tight under conditions of extreme vibration. The internally operated hex key sets the screw easily, quickly and snugly.

4. ALLENS are made of heat-treated special alloy steel (ALLENOY) for increased strength and are precision-threaded on Allen-developed lead screw threading machines for greater *holding power.*

Send specifications of diameter, length and thread (or submit samples of screws you are now using) and we will gladly supply samples of ALLEN Hollow Screws especially adapted to your particular requirements.

Visit our exhibit at the 14th Southern Textile Exposition Greenville, S. C. BOOTH 113A

THE ALLEN MFG. COMPANY
HARTFORD, CONNECTICUT, U. S. A.

purposes and further success is being recorded by knitted dresses for sports, house wear and even in the evening field. Despite war's alarms, the bathing suit situation is reported satisfactory, with only the usual filling in orders necessary to round out the season.

Wool Labeling Act News

The Federal Trade Commission issued proposed rules under the Wool Labeling Act on Mar. 15. These will be referred to in our next issue. Hearing is set for Apr. 2.

National Knitted Outerwear Association has prepared labels for its members to meet the requirements of the Wool Labeling Law which goes into effect July 14. It is stated that approximately 1,500,000 pin tickets, over 500,000 string tags and about 200,000 labels have been sold to date by the association.

National Association of Hosiery Manufacturers has issued "Bulletin No. 1" on the wool products labeling act.

This and That

Lamport Co., Samuel C. Lamport, president, is now established in its new location at 365 Broadway, corner of Franklin Street, New York. The firm was formerly known as the Lamport Mfg. Supply Co., and has previously been located at 507 Broadway since 1915.

Federal Trade Commission has issued trade practice rules for the linen industry under date of Feb. 1, 1941. In the definition it is stated "for the purpose of these rules, the term linen or flax as applied to textile fiber shall mean the fiber of the flax plant."

National Knitted Outerwear Association will hold its annual convention and banquet at the Hotel Astor, New York, April 2. Preparations are being made to accommodate 1,000.

TESTING PARACHUTE on tower developed by Pioneer Parachute Co., subsidiary of Cheney Bros., at Manchester, Conn. The parachute to be tested is strapped to a dummy and revolved at a rate of 70 to 350 miles per hr. When the desired speed has been attained, an operator on the ground pulls a cord running through the boom of the tower to the ripcord of the parachute, thus releasing the canopy. A slow-motion picture camera on the rigging records the action of the parachute's opening, which is too swift for the eye to follow. New ways of packing chutes and certain structural improvements have been developed as a result of these tests.

"Getting BETTER WETTABILITY, SOFTENING and PENETRATION"

with SUN TEXTILE PROCESSING OILS

That's what one large *rayon processor* says about these revolutionary, new pre-tested SUN Oils. The report further states they are "also getting better lustre on finished goods . . . and are able to cut down on alkali due to the softening qualities of these SUN Textile Processing Oils."

Why such a vast improvement? Just this! These new processing oils are the result of years of research in the laboratory and painstaking development in textile plants. Each and every grade of SUN Textile Processing Oil is produced to help you obtain:—

GREATER PENETRATION — **MAXIMUM WETTABILITY**
INCREASED PLIABILITY — **EASIER SCOURING**

Perhaps the advances and improvements made possible by these new SUN Pre-tested Textile Processing Oils have outmoded your present processing materials. Whatever the operation you'll find it worthwhile to get the full information on how "pre-testing helps your processing." Write—

SUN OIL COMPANY—Philadelphia, Pa.

SUN OILS

PETROLEUM PRODUCTS FOR ALL INDUSTRIES

SOLVING THE PROBLEM

• Waiting for money is expensive. It ties up your working capital. It keeps you from doing the volume you should. But, fortunately, there is a profitable solution: factoring. You are assured adequate working capital at all times, and, in addition, you are protected, against credit losses. Write us for the complete story — without any obligation to you whatsoever.

MEINHARD, GREEFF

AND COMPANY, INCORPORATED

51 MADISON AVENUE • NEW YORK CITY

Factoring Founded on Service

Safeguarding Construction Work From Fires

IN THE EXPECTATION that frequency of construction fires will increase as plant expansion follows the demand for increased activity, the Inspection Dept. of Associated Factory Mutual Fire Insurance Cos. has recommended the following five steps to be taken to safeguard construction work from fires.

1. Take full advantage of modern fire-resistant construction in planning buildings.
2. At all stages of construction provide maximum fire-protection equipment, such as fire extinguishers, small hose lines, etc. Permanent yard piping and hydrants should be placed in service as early as possible.
3. Provide competent supervision to prevent fire from occurring.
4. Plan for the installation of sprinklers and other fire-protection equipment that has been approved by a recognized testing laboratory. Sprinklers should be made ready for service as building progresses so they will be ready for use before any machinery is operated.
5. Organize an inspection system that will reinforce the measures of prevention and check upon the condition and availability of protective equipment. Tar kettles, source of roofing fires, are best located in the yard if the roof is combustible. Temporary boiler stacks should be equipped with spark arresters. Boilers, heaters, and gasoline motors should be constantly under the care of trained men. Accumulations of rubbish should be removed from the job as quickly as possible.

Based on early-American design material gathered by Marian Stephenson, New York, in a tour from New England to Virginia, "First Fashions of America" were launched this month by selected retailers. The cooperating textile firms are Everfast with special designs in cottons for summer; National-Mallinson for rayon and silks, and Hockanum for woolens.

1940 production of full-fashioned hosiery totaled 41,870,428 doz. prs. of which 2,986,146 were of Nylon. For the last half of the year out of 21,873,066 doz. prs., 2,252,497 were of Nylon.

American Bemberg Corp. adopted a new book-type tag for dresses made of its certified fabrics.

Snia Viscosa, the Italian rayon manufacturer, was reported to be participating in the formation of a Spanish company to produce rayon and artificial wool.

Avon Converting Co., New York, has acquired exclusive rights to the Broideray process, an improved method for mechanical simulation of embroidery in cloth printing.

Dyeing fast colors on cotton yarns was discussed by W. Allen Traver, vice-president and general plant manager, Frankling Process Co., at a luncheon meeting held Feb. 25, at the Wool Club, New York.

Philadelphia Textile School has installed two latest-type winders; one is a 20-spindle No. 90 filling winder; the other a 10-spindle No. 44 Roto-Cone and tube winder; both were purchased from Universal Winding Co., Providence, R. I.

Development of transparent, durable Koroseal film has just been announced by B. F. Goodrich Co., Akron, Ohio. Among the suggested uses for this material are in manufacture of raincoats, shower curtains, draperies, and aprons.

Use of vat dyes on fabrics made of rayon and wool blends is made possible by a new dyeing technique, it was announced recently by Sea Island Mills, Inc., 53 Worth St., New York. Rayon used in the fabrics was supplied by E. I. duPont deNemours & Co. It is stated this is the first time vat dyes have successfully been used on such fabrics.

Gotham Silk Hosiery Co. has added to its KPC line two non-run styles: all silk, three-thread, to retail at $1.15; Nylon, 30-denier, to retail at $1.95.

A new label to be used on Chatham blankets has received approval of the National Consumer-Retailer Council, Inc.

Supplying a Vital Need to our National Defense

Speaking at the Annual Banquet of the American Association of Textile Chemists and Colorists, Lieutenant Colonel Vere Painter, War Department, Quartermaster Depot, Philadelphia, said:

"We hear a great deal about the progress being made toward providing airplanes, tanks, guns . . .

"Did you ever stop to think how useless these things would be if we had them and did not have clothing for the men who were to handle them? . . .

"The first thing that must be provided for him (the soldier) is a hot meal, then clothing to protect him from the elements; blankets and other bedding must be provided for his comfort the first night in the Army; unless barracks are ready, tents must be immediately available . . .

"Now some people, both in and out of the Army, seem to think that the textile manufacturer merely waves a magic wand and the finished cloth begins to roll out of his plant.

"You, gentlemen, know that this is not so . . . A minimum of five months is required to purchase wool cloth, have it made and turn it into shirts for soldiers. And when I say a minimum of five months, experience has proved that in order to meet this schedule, conditions must be ideal . . ."

Ideal conditions, in the main, mean modern, efficient, fast machinery. You, the mills, need this machinery NOW—and we are working night and day to give it to you and are devoting all our facilities to this one important end.

In our 121 years of service we have helped speed the production of textile necessities for the armed forces of the United States in the Mexican War, the War between the States, the Spanish American War, the First World War.

Let us work with you now in determining whether Butterworth Machines can help you achieve bigger, faster, more uniform production.

H. W. BUTTERWORTH & SONS CO.
Phila., Pa., Serving the Textile Industry Since 1820.
Offices: Providence, R. I. and Charlotte, N. C. In Canada—W. J. Westaway Co., Hamilton, Ont.

***64%**

of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth

MODERN

BOBBIN CLEANING SYSTEM

MEETS THE NEED FOR SPEED— FOR SAFETY AND LOW COST

The efficiency of the New Type K is almost twice that of earlier machines. By shortening the push and pull strokes, it has a recommended speed of 125 bobbins per minute. Built in a single head, it requires only one operator. New safety features prevent any possibility of damage to barrels or finish.

The automatic handling accessories, Bobbin Box Hoist and Conveyor Elevator, not only eliminate all manual handling except feeding of the machine—they increase production anywhere from 40 to 100 per cent.

Records on all installations to date prove this modern cleaning and handling system cannot be challenged for over-all efficiency and economy. Find out what it will do for you—get the facts from your nearest representative or write us direct.

Visit our Exhibit at the
SOUTHERN TEXTILE EXHIBITION
BOOTHS 465–465 (in the annex)

The **Terrell Machine Co.,** *Inc.*
CHARLOTTE, N. C.

Luther Pilling, Danielson, Conn.—N. E. and Canada
E. W. S. Jasper, Inc., Elizabeth, N. J.—Penn. and N. J.
Geo. Thomas & Co., Manchester, Eng.—European Agt.

NEWS ABOUT MEN

Grant A. McClatchie, executive vice-president and treasurer of the United States Finishing Co., New York, has been elected president of the company. He retains the office of treasurer. He has been connected with the firm since 1917. Mr. McClatchie was also elected president of the company's subsidiaries, Queen Dyeing Co., Providence, and Hartsville (S. C.) Print & Dye Works.

J. Craig Smith, vice-president and treasurer of Avondale Mills, Sylacauga, Ala., has been elected president of Currier & Co., New York, succeeding the late Herbert Currier. The yarn sales agency will continue its offices as formerly in New York, Boston, Philadelphia, Reading and Amsterdam. **R. O. Elliott** of the Boston office was elected vice-president.

George W. Griffin, of Charles Chipman's Sons, New York, has been made a partner in that business, and also been elected a vice-president of the Rosedale Knitting Co.

Edwin L. Dale, for over 20 years general sales manager of Aberfoyle Mfg. Co., has organiz ' his own yarn firm known as Edwin L. Dale, Inc. He is making his headquarters at Rose and Laurel Lane, Haverford, Pa.

Clarence E. Chaffin, treasurer and general manager of the Bay State Thread Works, Springfield, Mass., was given a dinner last month at the plant in commemoration of the 35th anniversary of his connection with the organization.

William Portner, of Franklin Knitting Mills, Philadelphia, was toastmaster at the seventh annual dinner of the Pennsylvania Division of the National Knitted Outerwear Manufacturers Association, held in Philadelphia Feb. 20. **Lester Lichtenstein,** of West Point Knitwear Mills, was chairman of the dinner committee.

F. A. Williams, president and treasurer of Cannon Mills Co., New York; **C. B. Rockwell,** treasurer of Collins & Aikman Corp., Bristol, R. I.; **M. C. Huntoon,** president of Providence (R. I.) Braid Co., and **H. H. Schell,** president of Shelton Looms, New York, are among those who will participate in a tour of Colombia, Peru, Chile, Argentina, Uruguay and Brazil, to be undertaken this month by the National Research Council for "industrial exploration."

George W. Robertson, identified with the Riverside & Dan River Cotton Mills, Danville, Va., for 57 years, has resigned as general superintendent. He will not lose contact with the organization as he was elected vice-president and general superintendent emeritus, and will continue to serve in an advisory capacity. **R. B. Newton,** who came to Danville recently from Bibb Mfg. Co., Columbus, Ga., has been named general superintendent to succeed Mr. Robertson.

GEORGE W. ROBERTSON

Leonard J. Rushworth, superintendent of Riverside division, Riverside & Dan River Cotton Mills, Danville, Va., has resigned. Mr. Rushworth, who has been associated with the company for more than 30 years, will be succeeded by **C. E. Clarke,** identified with production at the Dan River division.

Harry T. Allen, assistant general manager of Bibb Mfg. Co., Macon, Ga., has resigned to accept a position with Riverside & Dan River Cotton Mills, Danville, Va. He had been with Bibb for nearly 20 years.

S. R. Fuller, Jr., president of North American Rayon Corp., and American Bemberg Corp., has been appointed as chairman of the new Production Planning Board of the Office of Production Management, Washington, D. C. The board first met Feb. 22. It will advise as to both industrial planning during the emergency and post-emergency readjustments and, as the basis for its recommendations, will make a study of production experience during the World War, the industrial mobilization plan of the War and Navy Departments, and the procedure followed recently by the National Defense Advisory Commission.

Z. W. Wheland, Chattanooga, Tenn., has succeeded the late A. E. Yates as president of the Yates Bleachery Co., Flintstone, Ga.

FULLITIN FULLS AND SCOURS COLD

AT TEMPERATURES AS LOW AS 60 DEGREES

Because FULLITIN is effective at low temperatures, it not only saves steam and labor, but also eliminates mill and washer wrinkles and stuck places, whiplashes, chafing, and streaky or cloudy dyeings. It absorbs even mineral oil used to lubricate stock and prevents bleeding of dyed stock and yarns.

FULLITIN may be used alone or with soap or alkali in any proportion, also warm if desired. It promotes quick and thorough penetration, giving a denser, firmer felt and a better handle.

Our service man will be glad to demonstrate its properties in your mill or to recommend a formula.

COMPANION PRODUCTS

SCOUROLAN . . . . . for perfect scouring
EBCOMULSION . . . . . for perfect handle
SOL-TAR . . . . . to remove tar spots

ERNST BISCHOFF COMPANY, INC.

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IVORYTON • CONNECTICUT

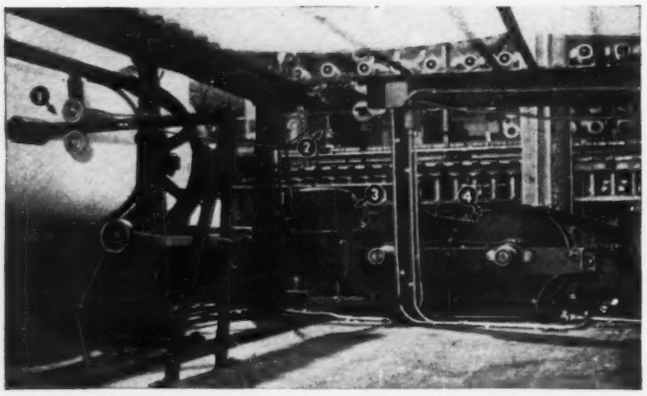
It's the Finish that Counts

HOW TO GET

HIGH CONSTANT YARDAGE

ON BEAMER *with Reeves*

Automatic Speed Control



(1) Follower roll which operates REEVES Hydraulic Control to slow down beam as diameter builds up. (2) Connection to Hydraulic Control. (3) REEVES piston type Hydraulic Control. (4) REEVES horizontal open design Transmission.

Before a REEVES Transmission with Automatic Control was installed on this beamer in a large Southern mill, the average yarn speed in high gear was about 40 yards a minute and in low gear, about 30 yards a minute.

Now, with the REEVES drive and Hydraulic Control, the yarn speed is adjustable from 60 yards to 80 yards a minute. Whatever speed it is set, constant yardage is always maintained and *production is practically doubled.*

Perhaps you have a processing problem—made extremely acute by defense demands—that REEVES Variable Speed Control will solve immediately and inexpensively. Write today for free copy of 124-page Catalog-Manual G-397, which describes and illustrates REEVES units and their wide use in textile manufacturing and finishing.

REEVES PULLEY CO., *Dept. W,* COLUMBUS, INDIANA

VISIT US AT SOUTHERN TEXTILE EXPOSITION ...Booths Nos. 240-241

Accurate Positive REEVES SPEED CONTROL

NEWS ABOUT MEN

R. A. McMillan has been elected president-treasurer of Talladega (Ala.) Cotton Factory, succeeding A. G. McMillan, deceased.

William F. Gunter, owner of Gunter Silk Co., Danville, Pa., has sold the plant and equipment to **Fred Muster,** Berwick, Pa., a veteran of the silk industry, who will equip it for rayon products.

C. A. Meister, Jr., formerly associated with McCampbell & Co., is the new vice-president of the Deep River Mfg. Co., Randleman, N. C.

Bascom B. Blackwelder, president of Shuford chain of cotton mills at Hickory, N. C., has been elected a member of the national committee on business welfare of the Chamber of Commerce of the United States.

George L. Curtis and **Edwin M. Newton** have been added to the board of directors of the Nashua (N. H.) Mfg. Co., increasing the membership to 11. At the 117th annual meeting of the company, **Robert Amory,** president and treasurer, expressed confidence the organization "can prove that cotton goods can be manufactured in the North."

Ellis M. Johnston recently retired as chairman of the board of Woodside Cotton Mills Co. and Easley Cotton Mills. Successor to Mr. Johnston has not yet been elected.

Marshall B. Hall has resigned as second vice-president of the Guaranty Trust Co., New York, to become vice-president and director of Adams-Millis Corp., High Point, N. C.

J. F. Barnwell, president of Abbeville (S. C.) Mills, retired from active duty in January after serving for many years in various capacities with the company.

Ernst Levi has been elected president of the Rugby Knitting Mills, Buffalo, N. Y., succeeding his brother, the late Siegfried Levi. He will continue as treasurer and general manager of the company.

E. D. Coldren, owner of Coldren Knitting Mills, Schuylkill Haven, Pa., is planning to retire after more than 50 years in the textile business.

J. L. Cochran is secretary and treasurer of the newly organized Star (N. C.) Finishing Co.

Jules L. Foreman, who has headed the Foreman Silk Division of Cohn-Hall-Marx Co., New York, for the last nine years, has resigned effective next month, and will enter business on his own account.

F. Mogami is the new head of the Japanese Government Raw Silk Intelligence Bureau, New York. He succeeds **T. Uyeda,** who has represented his Government at the Bureau for the last three years.

Bernard Steuer, of the Tartan Knit Wear Mills, Philadelphia, has been elected president of the Pennsylvania Division of the National Knitted Outerwear Association.

Lieut. Col. Roger W. Whitman, president of American Hosiery Co., New Britain, Conn., and also president of the National Knitted Outerwear Association, has been called for active duty in the United States Army. He is now serving as assistant Corps Quartermaster, in the 6th Army Corps stationed at Providence, R. I.

Dudley Voorhees, proprietor of J. T. Voorhees' Sons Co., New York, has been elected vice-president in charge of sales and a member of the board of directors of Harriman (Tenn.) Hosiery Mills.

W. Ralph MacIntyre, of Joseph Bancroft & Sons Co., Wilmington, Del., has been elected first vice-president of the National Association of Finishers of Textile Fabrics, succeeding **John W. Manley,** of Sayles Finishing Plants. At the recent annual meeting there was no other change in the Association's line-up of officers.

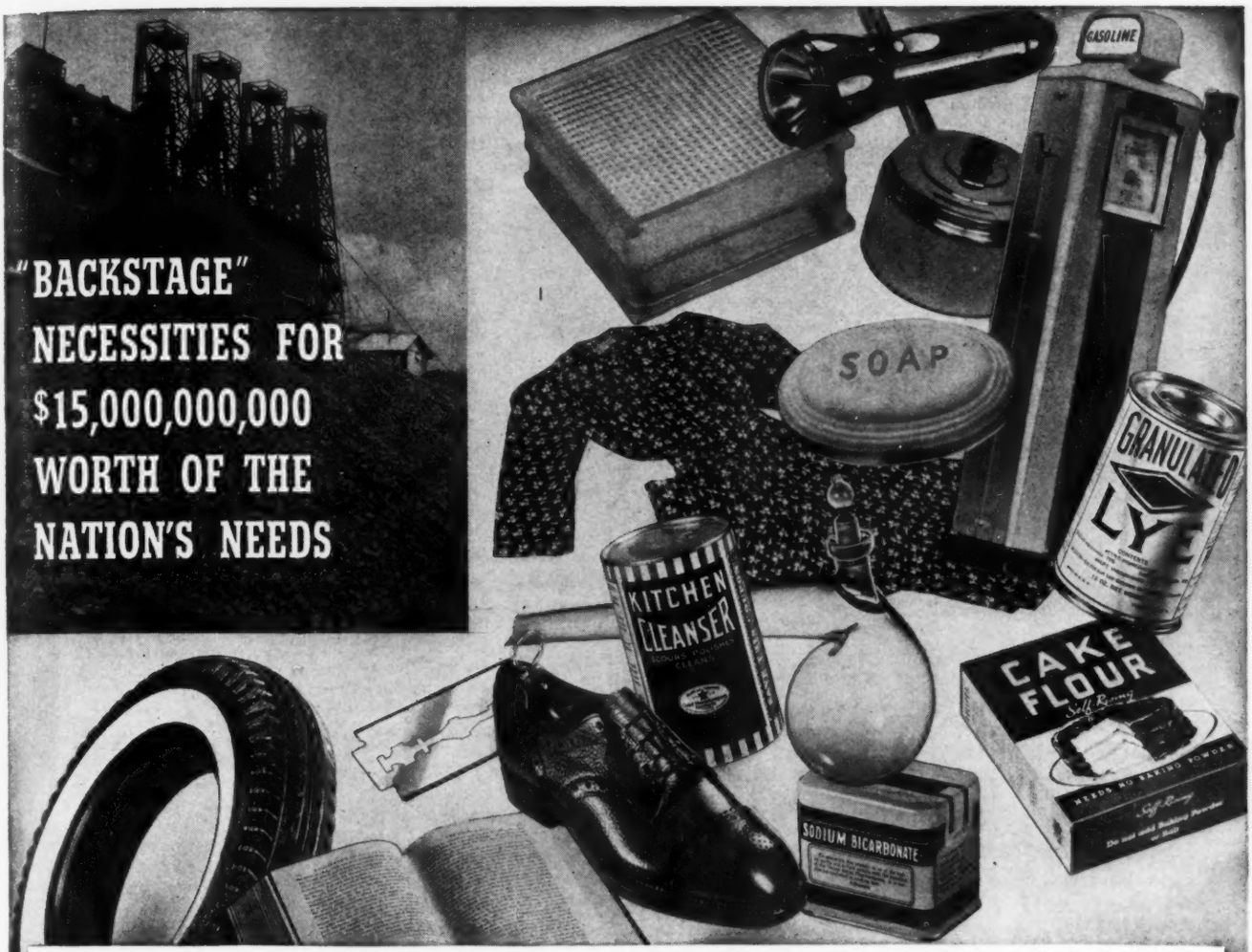
George H. Hodgson, chairman of the board of Cleveland (Ohio) Worsted Mills Co., on Feb. 1 celebrated the 50th anniversary of his connection with that company. He joined the company as designer when 21 years old.

W. Ray Bell was re-elected president of the Association of Cotton Textile Merchants of New York at a directors' meeting Feb. 4. At the same time **Saul F. Dribben,** of Cone Export & Commission Co., was re-elected vice-president, and **Charles A. Sweet,** of Wellington Sears Co., was re-elected treasurer.

Wellington Sears Co., New York, has elected seven department heads as vice-presidents of the company as follows: **R. G. Conant,** colored and converted goods; **M. P. Fenton,** Martex and West Point towels and crashes; **H. S. Grew, Jr.,** coarse goods; **W. O. Hay, Jr.,** fine goods; **F. H. Hillery** exports and Government contracts; **E. H. Johnson,** coarse gray goods; **P. G. Lovell,** Fairfax towels and crashes.

Dr. E. J. Saxl, consulting physicist and chemist, is conducting a course for the Division of University Extension, Massachusetts Department of Education, at the Massachusetts Institute of Technology, Cambridge, Mass. on rayon and synthetic fibers. The course meets on sixteen Tuesdays beginning Feb. 25.

Henry A. Jaeger has been



COLUMBIA alkalies and related products are "backstage" materials—and most important ones. They help keep nearly 3,000,000 people at work, making over fifteen billion dollars' worth of glass, soap, paper, rubber, textiles, dyestuffs and other chemicals. Without the homely products such as ours, many, many things the nation wears and uses for work and play couldn't be available so plentifully. Some couldn't be made at all.

Of necessity our products must be produced in huge quantities—and reasonably. But that's not the only reason our Barbeton, Ohio plant has become one of the country's important sources of alkalies. Industry has learned from experience that we produce these "backstage" materials by the carload as carefully as if they were made—and used—by the ounce. You'll like the way Columbia products—backed by Columbia Technical Service—do their job for you.

If it's a Columbia Product—
you're sure it's the best

SODA ASH • CAUSTIC SODA
SODIUM BICARBONATE
CALCIUM CHLORIDE
LIQUID CHLORINE
HENNIG PURIFIER
MODIFIED SODAS
CAUSTIC ASH
PHOSFLAKE
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COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY
Columbia Chemical Division
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HIT OR MISS METHODS . . .

Hit or miss methods of selecting soda ash, caustic soda, and other alkalies you require for textile operations have gone out of date.

Today, there are five important requirements to be considered when you place your order for an alkali . . .

QUALITY—Solvay Alkali quality is assured. The oldest and largest alkali producer . . . Solvay Alkalies have established the quality standards for alkalies for years.

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NEWS ABOUT MEN

appointed sales manager of Wytheville (Va.) Woolen Mills, Inc., to succeed **C. B. Van Horten,** recently resigned.

Walter H. Paige, retired cotton-textile manufacturer of New Bedford, Mass., has been assigned to special textile work in Everett, Mass., by the Quartermaster Corps, United States Army.

Edward B. Gaylord was recently elected president of Winsted (Conn.) Hosiery Co. and of New England Knitting Co., Winsted.

E. F. Cunningham has resigned as president and general manager of the Dallas (Tex.) Cotton Mills. **S. E. Perkins,** president of the Perkins Dry Goods Co., is acting-president pending a meeting of stockholders.

Charles A. Rudolph, Jr., overseer of weave room at Chicopee Mfg. Co. of Georgia, Gainesville, Ga., with which company he has been associated for 14 years, has been transferred to a mill of the same parent company, Johnson & Johnson, at Sao Paulo, Brazil, where he will be technician. After serving in this capacity for a time he will become manager of that unit. **Harry Purvis,** who has been superintendent of Chicopee's Gainesville plant and has lately been stationed at the Sao Paulo, Brazil, plant, will soon return to his duties at Gainesville.

John P. Baum, assistant manager of Pepperell Mfg. Co., Opelika, Ala., holding a captains commission in Army Reserve Corps, has been called for one year's active duty. He is stationed at Arlington, Va.

Carol E. Blackler, formerly with Bradford Dyeing Association, Westerly, R. I., has joined the sales department of Mount Hope Finishing Co., North Dighton, Mass., owners of the Wat-a-set and Wat-a-tite finishes for cottons and rayons. Mr. Blackler will specialize on sulphur colors, vat dyes, and water repellent finishes for outdoor sportswear and work clothes.

Henry F. Bromley, Jr., of the North American Lace Co., Philadelphia, was elected president of the American Lace Manufacturers Association at the annual meeting of that group in New York recently.

H. Irwin Moraff has become associated with J. W. Valentine Co., New York, in a general sales advisory capacity.

Herbert L. Gordon has formed his own hosiery sales organization under the name Hosiery House, Inc., with offices in the Empire State Building, New York. Mr. Gordon was formerly vice-president of Lichten Bros., New York. He is now representing three mills.

Whitney Bird, for the last six years with Southeastern Cottons, Inc., has joined J. L. Stifel & Sons, New York, as assistant sales manager. **William H. Pinnell** formerly of Fred Butterfield & Co. and lately with Reeves Bros., is the sales manager.

William O. Holmes has resigned as fabric stylist for McCampbell & Co., New York.

John F. Jervis has become associated with James Talcott, Inc., New York.

E. L. Whitford has resigned as superintendent of Peerless Weaving Co., Pawtucket, R. I.

John Cowling has resigned as president of Louis Roessel & Co., Drummondsville, Quebec.

J. J. Merlein, who recently resigned from North American Rayon Corp., has joined the rayon division of J. P. Stevens & Co., New York, in a sales capacity.

Nathaniel C. Thayer, for nearly nine years advertising manager of the Acetate Division of E. I. du Pont de Nemours & Co., Wilmington, Del., plans to retire from the company's service next month, as a result of the company's new retirement plan, requiring retirement at the age of 65.

John Caradine, of Westminster, Ltd., New York, agent for Nolde & Horst, Reading, Pa., has succeeded **Leonard G. Hyde** as stylist and merchandise manager for Westminster.

H. Arthur Newton, of Dover, N. H., has assumed his duties as superintendent of the Granby, Richland and Capitol plants of Pacific Mills, Columbia, S. C. He was formerly general superintendent of the Cocheco Division of the Pacific Mills, in Dover.

Stuart B. Walker, of United States Testing Co., Hoboken, N. J., has been elected to the board of directors of the American Association of Technologists, succeeding **Herbert H. Hatch,** of Hatch Textile Research, New York.

A. Stanley Llewellyn will assume his duties as general manager of Inman (S. C.) Cotton Mills and Riverdale Mills, Enoree, S. C. For 17 years he has been manager of the Wateree plant of the Kendall Co.

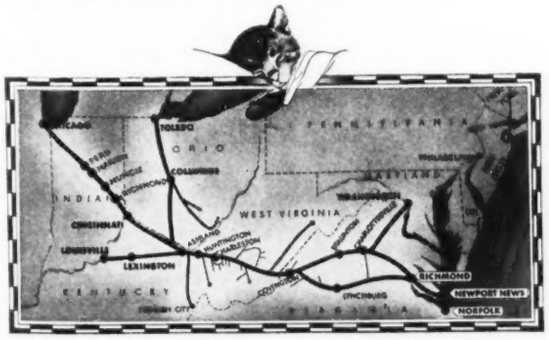
Robert Jackson, manager of Gastonia (N. C.) Full-Fashioned Hosiery Mill, has purchased the Cheraw (S. C.) Hosiery Mill which has been closed for some time.

Carl R. Harris, a graduate of N. C. State Textile School, and past-president of Southern Textile Association, who has

Surrounding ideal TEXTILE SITES in The Chessie Corridor is a land for HAPPY LIVING!

ONE of the most beautiful regions on the face of the earth is that which lies in the eastern end of *The Chessie Corridor.* Here, in a land that also provides their every industrial need, hundreds of textile workers and executives live—and live *well!*

With natural beauty goes healthful, moderate climate . . . more sunlit days . . . longer hours of sunlight. In this land of rare climatic extremes, construction and living costs are also lower. For work, for contented home life—and for play at nearby mountain and seashore resorts—*The Chessie Corridor* offers ideal living conditions . . . set in the midst of "industry's next great expansion area." Little wonder that so many textile mills are here already!



Plus . . THESE 7 OTHER VITAL NEEDS

Plentiful Pure Water—of a softness and chemical content suitable for textile manufacture is assured.

Acreage on Waterways—sites of various sizes provided with soft, flowing water for processing.

Abundant Raw Materials—both natural and manufactured, including chemicals, are readily available in *The Corridor.*

Native-born Labor—largely skilled men and women, many with textile experience; cooperative, willing-to-work *Americans.*

Proximity to Markets—major consuming areas are within first to third morning delivery range by fast Chesapeake and Ohio freights.

Unlimited Electric Power—provided by central stations in coal field territory at extremely *low rates.*

Friendly Legislation—cooperating with industries already here and with those the states invite.

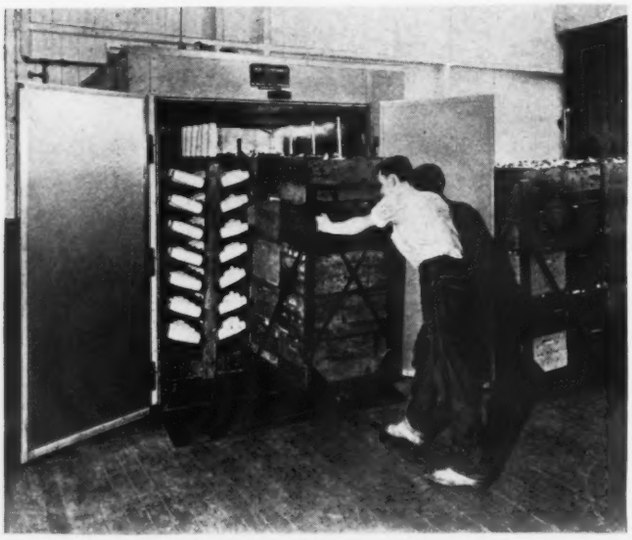
* * *

THE COMPLETE STORY of this important area is published in a beautiful book you'll be proud to have in your library—"The Chessie Corridor . . . Industry's Next Great Expansion Area." This is a graphic survey of the resources, conditions and opportunities which beckon industry to *The Corridor.* Copies will be mailed to textile executives requesting them from INDUSTRIAL DEVELOPMENT SERVICE, Chesapeake and Ohio Lines, Huntington, West Virginia.

THE CHESSIE CORRIDOR ★ ***Served by CHESAPEAKE and OHIO LINES***

FROM SILK HOSIERY THREAD TO COTTON FILLING

A profitable little story that mentions incidentally SPUN RAYON, FILAMENT RAYON, WOOLEN, AND WORSTED.



IN INTRODUCING THE "H-W" CONDITIONER AND TWIST SETTER to the textile industry we tackled the knottiest problem first of all—the preparation of silk for the full-fashioned hosiery machine. It was natural, of course, that a *high-quality, precision machine* like the "H-W" should be adopted first for helping a high-quality, high-cost fiber through its most delicate manufacturing operation.

BUT IT WAS NATURAL, TOO, that the now famous "H-W" principle—*penetration of the fiber by a finely-diffused, true water vapor developed at low, unharmful temperature*—should find equally successful application in conditioning filling yarn in all branches of the industry—WOOLEN, WORSTED, SYNTHETIC (FILAMENT AND SPUN), and COTTON.

The advantages of the "H-W" Conditioner—with *its rapid and thorough treatment of the yarns, its inability to injure them in any way, and its surprising uniformity in the application of moisture to lot after lot of yarn*—are proving as gratifyingly beneficial in the case of the industry's lowest-priced major fiber, cotton, as they ever proved in the case of its costliest fiber, silk.

COTTON MILLS IN PARTICULAR have recently been discovering *surprising economies* through the use of the "H-W" Conditioner for both COTTON and SPUN RAYON. Their interesting experiences (may we relate them to you sometime?) prove beyond a shadow of a doubt that the ideal machine for preparing COTTON FILLING and SPUN RAYON FILLING for the loom has been found. It is the

"H-W" CONDITIONER

No free moisture, no condensation drip, Bristol controlling and recording hygrometer, time clock, motor drive, monel metal or stainless steel lining, welded steel frame, Johns-Manville asbestos-board covering, Fiberglas insulation, nickel-clad steel floor, accommodations for any package, tray, or truck.

Better yarn, better weaving efficiency, better cloth, better customer satisfaction—at lower cost.

THE INDUSTRIAL DRYER CORPORATION
STAMFORD, CONNECTICUT

NEWS ABOUT MEN

been with Erwin Mills Co., Durham, N. C., for 13 years, has been promoted to assistant secretary and treasurer. Mr. Harris is chairman of the committee which is conducting the research project on Warp Sizing of Spun Rayon.

Harold B. Hoskins, vice-president, Cannon Mills, New York, has been called to Washington for special work in the State Department under A. A. Berle, Assistant Secretary of State.

Frank Neild, formerly treasurer of the old Neild Mfg. Co., New Bedford, Mass., ex-president of N. A. C. M., and a veteran cotton manufacturer, will leave for the Philippines late this month. He has been engaged by National Development Co., Manila, to be general manager of the Philippine Government-owned cotton mill.

C. E. Estes has become manager of the Montgomery, Ala., unit of Selma Mfg. Co.

W. H. Tedford, formerly assistant manager of the Mollohon unit of Kendall Co., Newbery, S. C., has been promoted to manager of the Addison unit of the company at Edgefield, S. C., and has been succeeded by **A. H. Thomas,** formerly of the Thrift unit at Paw Creek, N. C.

G. S. Johnston, manager of the Chattanooga, Tenn., office of Textiles, Inc., has been elected president of the Chattanooga Yarn Men's Association, succeeding **Dudley Bryan. William Crews** of Avondale Mills was elected vice-president; **Jack Ulmer** of E. I. du Pont de Nemours & Co., secretary; and **Spencer Sparks** of Katakura Corp., treasurer. At the meeting, plans were made for the Annual Textile Golf Tournament and the last week in May was selected as the time for the annual outing.

Allison A. Kuhn has succeeded **Holland Rader** as secretary and treasurer of Newton (N. C.) Fiber Mill, a branch of the Carolina Paint & Varnish Co.

Clarence H. Tingsley has been elected treasurer of the Hillsborough (N. H.) Hosiery Mills, to succeed **John H. Childs.**

Frederick Darlington, for the last 10 years with Pacific Mills, Lawrence, Mass., has become stylist and designer of filament and staple rayon gray goods, for Deering, Milliken & Co., New York.

William F. Dumas has been appointed superintendent of Holyoke (Mass.) Mills. He was recently with the Androscoggin Mills in Lewiston, Maine.

Frank L. Schlabach has been appointed sales manager for Rollins Hosiery Mills, Des Moines, Iowa.

Charles H. Pechelis, who has been with the Howard E. Bishop organization, New York, for about a year, has been appointed sales manager of the rayon goods department.

James S. Fuller, assistant secretary of the board, and **Albert Vaughn,** credit manager, have been elected to the board of directors of Bradley Knitting Co., Delavan, Wis., succeeding **H. W. Mittelstadt** and **H. S. Bowers,** both resigned.

William Neumann has resigned as head of the woolen carding department at Alexander Smith & Sons Carpet Co., Yonkers, N. Y., to become overseer of carding and spinning at the Atlanta (Ga.) Woolen Mills.

W. R. Berd has been elected manager of Selma (Ala.) Mfg. Co. He has been with the company for 21 years.

D. P. Johnston, manager of Vamoco Mills, Franklinton, N. C., has resigned. Appointment of a successor will be announced later.

Robert F. Tully is now night overseer of carding at China Grove (N. C.) Cotton Mills.

P. H. Burrus, Jr. is now assistant superintendent of the sheeting mills of Marshall Field & Co., Spray, N. C.

Horace P. Thomas has become superintendent of Banning (Ga.) Cotton Mills. He was formerly associated with Villa Rica (Ga.) Mills.

Thomas B. Spencer is the new superintendent of Dacotah Cotton Mills, Lexington, N. C., succeeding **C. J. Meagher,** who resigned to accept a similar position with Erlanger Cotton Mills. Until recently Mr. Spencer was superintendent of a Statesville, N. C., mill.

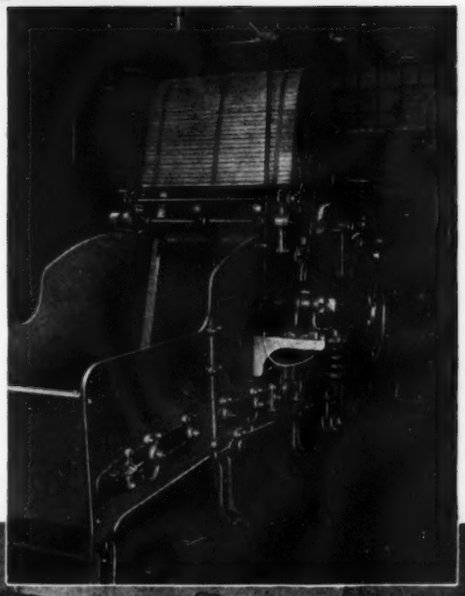
Al Krall, for the last two years superintendent of Alderman Top Co., Holyoke, Mass., has resigned to take a similar position with Talbort Scouring Co., Norwood, Mass. Mr. Krall was employed by the Farr Alpaca Co. for 25 years.

William W. Edwards, superintendent of the Franklin (N. H.) Mills of M. T. Stevens & Sons Co., was tendered a banquet in recognition of his 50th anniversary in the employ of the concern.

D. J. Sickerott has resigned as superintendent of Siler City (N. C.) Hosiery Co., and on Feb 1 returned to a former position with Nickels & Nickels, of Philadelphia, Pa.

H. W. Kiser, formerly superintendent of Watts Mills, Laurens, S. C., has become associated with Burlington Mills Corp., Greensboro, N. C.

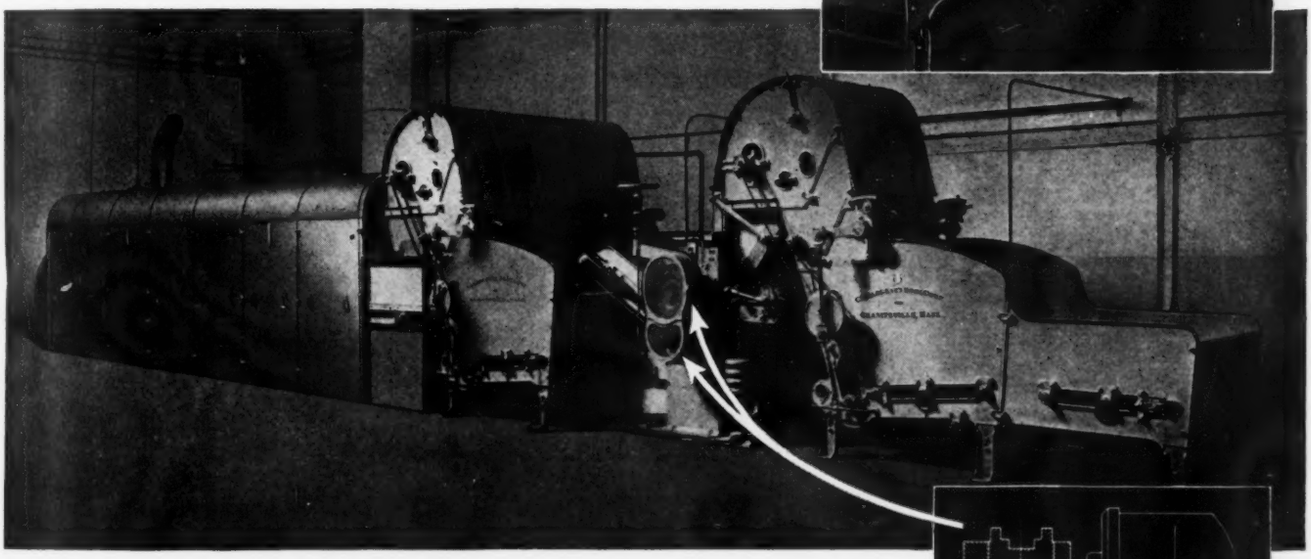
Sargent's latest
"RAW STOCK DRYING UNIT"

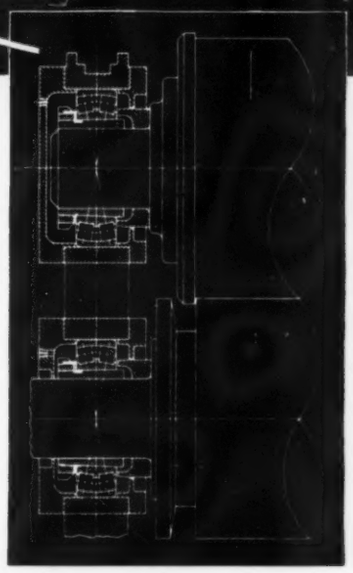


Controlled Drying ✶ Increased Hourly Production ✶ Reduction in Steam and Power Consumption ✶ 50% Saving in Labor Costs–

These are just a few of the benefits realized by the owners of this equipment. These machines will pay for themselves in 18 months.

Consult SARGENT on RAW STOCK DRYING!





DESCRIPTION OF ILLUSTRATIONS

UPPER RIGHT This view shows the Feed Hopper of a 38 inch Sargent Press Roll Feed. This Feeder has a 4 foot extension to the bottom apron which provides a large holding capacity. Note the direct motor drives on Feed and Squeeze Roll Machine, also patented ball bearing comb mounting.

CENTER A Dye House installation of which Sargent is justly proud. Note its simplicity and compactness. Press Roll Machine with oscillating feed table and ball bearing rolls attached directly to a large capacity Dryer.

LOWER RIGHT The line drawing at the lower right shows Sargent's adaptation of heavy duty ball bearings to a Standard Squeeze Roll Machine. These bearings require practically no attention and at the same time are easily removable when roll repairs are necessary.

C. G. SARGENT'S SONS CORPORATION, Graniteville, Mass.

For No. 1 or No. 1,000,001 it must be **UNIFORM**

Government order or not, every buyer of textiles insists on *uniformity* of color, texture and weight. For you, uniformity means satisfied customers and added profit due to fewer rejects. One way to greatly assist in insuring full control over your dyeing and finishing operations is with a

HUNGERFORD & TERRY WATER PURIFICATION SYSTEM

These dependable systems produce clear, 100% soft, iron-free water at a cost of only a few cents per thousand gallons . . . . Water that assures uniform finish, better hand, brighter colors, closer dye matching, whiter whites and holds rejects down to the minimum.

To determine whether or not your water supply is causing your trouble and expense we will make an impartial survey without fee or obligation. Write us today.

HUNGERFORD & TERRY, INC.

WATER PURIFICATION PLANTS DESIGNED INSTALLED *and* GUARANTEED

CLAYTON, NEW JERSEY

NEWS ABOUT MEN

George R. Grice has resigned as superintendent of Lola Mills, Stanley, N. C., and accepted a similar position with Ranlo (N. C.) Mfg. Co.

Wemyss B. Scott has resigned as overseer of carding at Cocheco Mfg. Co., East Rochester, N. H., to accept a position in Sanford, Me.

J. D. Walker, superintendent of slashing of Lindale (Ga.) plant of Pepperell Mfg. Co., for the last 10 years, has resigned and become connected with the Southern Sizing Co., Atlanta, Ga., in a sales and service capacity.

Ben Pearson has become superintendent of Chadwick Hoskins Mills (Plants No. 1 and 2) Charlotte, N. C. He formerly held a similar position with Martinsville Cotton Mills.

Broadus Williams is the new superintendent of Aponaug Mfg. Co., West Point, Miss.

W. A. Rhinehardt, formerly with Marshall Field & Co., Draper, N. C., is now superintendent of Cleghorn plant of Spindale (N. C.) Mills.

F. L. Young recently assumed his new duties as superintendent of the Hickory (N. C.) Dyeing & Winding Co.

Fred Rollinson has assumed his duties as superintendent of the Soule Mill, New Bedford, Mass. A former overseer in Soule and Nashawena Mills in New Bedford, he had more recently been superintendent of a textile plant in Lewiston, Me.

W. E. Dunn has succeeded **George H. Lollis** as superintendent of Chiquola Cotton Mills, Honea Path, S. C. **A. B. Martin,** former superintendent of the Williamston Cotton Mills, has been made assistant superintendent at Chiquola.

John G. Chapman, formerly manager of Samoset Cotton Mills, Talladega, Ala., has been made superintendent of Eagle & Phenix Mills, Columbus, Ga.

Frank Asbury, Jr., has been made assistant superintendent of Avondale Mills, Sylacauga, Ala. He was recently with Eagle & Phenix Mills, Columbus, Ga.

Gordon Ogden, of New Bedford, Mass., has been appointed designer for Continental Mills, Lewiston, Me. He is a graduate of New Bedford Textile School, and was formerly designer for Pacific Mills, Dover, N. H.

Francis E. McMullen, a former resident of New Bedford, Mass., has been named technician at the Soule Mill, New Bedford. He was lately with Pacific Mills, Dover, N. H.

George Max, Jr., formerly assistant superintendent with Pioneer Mills of American Woolen Co., Pittsfield, is now assistant superintendent of the Farnsworth Mills, Lisbon Center, Me.

Thomas H. McKay has resigned as head of the dyeing department of Threads, Inc., Gastonia, N. C., and accepted a similar position with Waverly Mills, Charlottesville, Va.

R. L. Dorsey has been promoted to assistant to the weaving overseer at Riverdale Mills, Enoree, S. C.

Ralph J. Kirkpatrick, formerly general superintendent of West Point (Ga.) Utilization Co., has been made sales agent of the company. **Everett Neely,** has been made superintendent, and **J. N. Landers** assistant superintendent of the company.

W. A. Rhinehardt, formerly associated with Marshall-Field & Co., Draper, N. C., has been made superintendent of the Cleghorn plant of Spindale (N. C.) Mills, Inc.

W. M. Melton has recently been made general manager of Pisgah Mills, Brevard, N. C. He was formerly superintendent of Green River Mills, Tuxedo, N. C.

W. Carlisle Neely was recently elected secretary of Clinton (S. C.) Cotton Mills succeeding the late W. C. Oxley. **E. J. Bailey** was re-elected president and treasurer, and **P. S. Bailey** was re-elected vice-president.

James H. Arthur has resigned his position with Hannah Pickett Mills, Rockingham, N. C., and has established his own business as a textile cost analyst at Union, S. C.

H. M. Jackson is now superintendent of Pacolet Mfg. Co., No. 4, New Holland, Ga.

Ben V. May, treasurer of the May hosiery mill interests of Burlington, N. C., has purchased the McAdoo Building at Greensboro, N. C., for $39,000.

Robert T. Stutts, superintendent of Woodside Cotton Mills Co., Fountain Inn, S. C., and Simpsonville, S. C., a captain in the United States army reserve, has been ordered to active duty, effective March 16, and the textile plant has granted him a leave of absence.

Will Jefferies, formerly of El Paso, Tex., has become overseer of spinning at the Catherine plant of Avondale Mills, Sylacauga, Ala.

J. R. Johnson, overseer of the cloth room of Chiquola Mfg. Co., Honea Path, S. C., has resigned.

D. L. Epperson has become

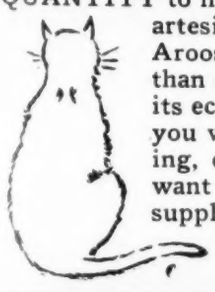
It beats the Dutch!

AROOSTOOCRAT POTATO STARCH

NOW
Equal to the Finest Imported
•
SETS A
New Standard of Quality

Have you been buying imported Dutch Potato Starch, at a premium? You can't get it now . . . but you can get a textile starch, made by methods and equipment patterned after the perfected Netherlands equipment, that not only equals but in some respects "beats the Dutch" . . . AROOSTOOCRAT.

YES—utilizing European processes and equipment, AROOSTOOCRAT is producing high grade potato starch of first grade quality—and in QUANTITY to meet all textile needs. From the initial washing in purest artesian water right through every step of the modern process, Aroostoocrat starch is laboratory controlled. It costs no more than ordinary starches—yet quickly gives convincing proof of its economy over cheap starches. No matter how much you use, you will find its quality CONSTANTLY UNIFORM, unvarying, dependable. It solves the problem for textile men who want the best in textile starch, from a dependable source of supply.



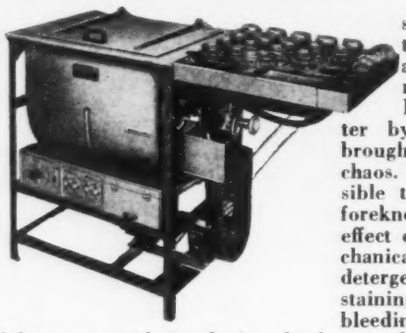
Write . . .
for our new booklet: "It Beats the Dutch." Let's put you through the mill and show you how Aroostoocrat Starch is made and how it will solve your starch problem. A copy is free—send for it.

AROOSTOOK POTATO PRODUCTS, INC.

HOULTON, ME. ***Sales Agent:*** **MORNINGSTAR NICOL, INC., 630 W. 51st St., New York City**

ONE CANNOT USE THE LENGTH OF HIS NOSE AS A STANDARD IN MODERN BUSINESS

The unit of length must be fixed and unvarying. Thirteen years ago, "washability" was the most abused term in the textile field because there was no standard machine, method or interpretation.



Adoption of specifications by the A.A.T.C.C. and development of the Launder - Ometer by Atlas has brought order out of chaos. Thus it is possible to get scientific foreknowledge of the effect of washing, mechanical action, and detergents; results of staining, fading, and bleeding. A versatile laboratory tool in dyeing leather, making shrinkage, fulling and dry cleaning tests.

Support of a testing program is not enough; it must be *Standardized Testing*. And in the field just mentioned, that means "Launder-Ometer Tested".

Send for Launder-Ometer catalog and multiprint describing new pre-heated loading table.

ATLAS ELECTRIC DEVICES CO.

371 W. Superior St. Chicago, Ill.

Compare! point for point and you'll use

SHAMROCKS

MEESE, INC. Madison, Ind.

SEND US your new catalog

Name_____

Address_____

NEWS ABOUT MEN

JAMES JEPSON, formerly with Link-Belt Co., Atlanta, Ga., who in recent months has seen active duty with the Royal Air Force in raids on Germany, was reported missing last month by the British Government. His wife, Mrs. Catherine Happoldt Jepson, of Decatur, Ga., was advised of this fact by cable. It is thought that he may have been forced down during a raid over Italy which took place on the day he was reported missing.

assistant superintendent of Avondale Mills, Sylacauga, Ala.

A. L. Strawn has been appointed general overseer of weaving at Ninety-Six (S. C.) Cotton Mills.

E. W. Seigler, formerly superintendent of Grendel Mills and Panola Mills, Greenwood, S. C., has been appointed overseer of weaving at all five of the mills of the Abney interests, including two at Greenwood, the Anderson (S. C.) Cotton Mill, the Belton (S. C.) Mills, and the Courtney Mfg. Co., Newry, S. C.

J. M. Phillips has become day second-hand in weaving at Ninety-Six (S. C.) Cotton Mills.

L. Dunaway has been appointed overseer of first-shift slashing at Riverdale Mills, Enoree, S. C.

A. A. Oliver has become superintendent of the newly organized Irene Cotton Mill, Taylorsville, N. C.

J. B. Templeton, formerly with Brandon Corp., Greenville, S. C., has become overseer of carding at Mathews Mill, Greenwood, S. C.

R. E. Calvert, formerly second-hand at Chiquola Mfg. Co., Honea Path, S. C., has been promoted to overseer of weaving.

Allen J. Dennis has become superintendent of Unit No. 1 of Bibb Mfg. Co., Macon, Ga.

Obituary

J. Fred Havey, 62, since 1915 foreign sales manager of Saco-Lowell Shops, Boston, Mass., and known in many quarters of the world on account of his travels and contacts, died suddenly in Boston on Feb. 23. Mr. Havey was graduated from Harvard in 1901, and had been with the company since 1912.

Joseph H. Emery, 81, former president of Onyx Hosiery, Inc., New York, died at Province Lake, N. H., on March 2. He was a native of Dover, N. H., and retired in 1925. He was with Lord & Taylor, New York, from 1878 to 1913, rising from stock clerk to president. He formed the sales firm of Emery & Beers Co., and later promoted the line of Onyx hosiery.

Walter E. O'Hara, 43, president and treasurer of Anawan Mills, Fall River, Mass., and an outstanding figure in Rhode Island track and sporting circles, was killed on Feb. 28 in an automobile collision at Taunton, Mass. He was a native of Middleboro, Mass., and began as a bookkeeper in the above mills. For some years he was the central figure in textile mill liquidations and at one time had plans for a merger of active properties totaling over 3,000,000 spindles.

Arthur E. Yates, 65, president of the Yates Bleachery Co., Flintstone, Ga., died Feb. 6, on the train en route from Florida to Chattanooga, Tenn.

Charles H. Geitner, 74, president of Highland Cordage Co. and vice-president of Ivey Weavers, both of Hickory, N. C., died recently at Lakeland, Fla.

Col. Wm. C. Cheney, 76, former manager of the Manchester (Conn.) mill of Cheney Brothers, later a director of the company, and for many years prominent in public affairs in Connecticut, died at the Hartford Hospital on March 2.

F. August Schroeder, 68, president of Heberlein Patents Corp., New York, died Feb. 9. He was long active in Swiss-American textile trade relations.

William H. Cadwell, 68, retired agent of Jackson Mills of the Nashua Mfg. Co. and long prominent in New England textile circles, died Feb. 20 in Nashua, N. H. He joined the company in 1894 and served as agent from 1900 to 1936.

Sam. W. Thornton, 58, vice-president and general manager of the Hartwell (Ga.) Cotton Mills died Feb. 13.

Luman H. Tiffany, 76, former head of the Tiffany Woolen Mills, Webster, Mass., died at his home in that place on Feb. 12.

Aaron Brumbach, 83, of St. Lawrence, Pa., died recently. He was for many years a member of the firm of Brumbach Bros. Woolen Mills, Esterly, Pa.

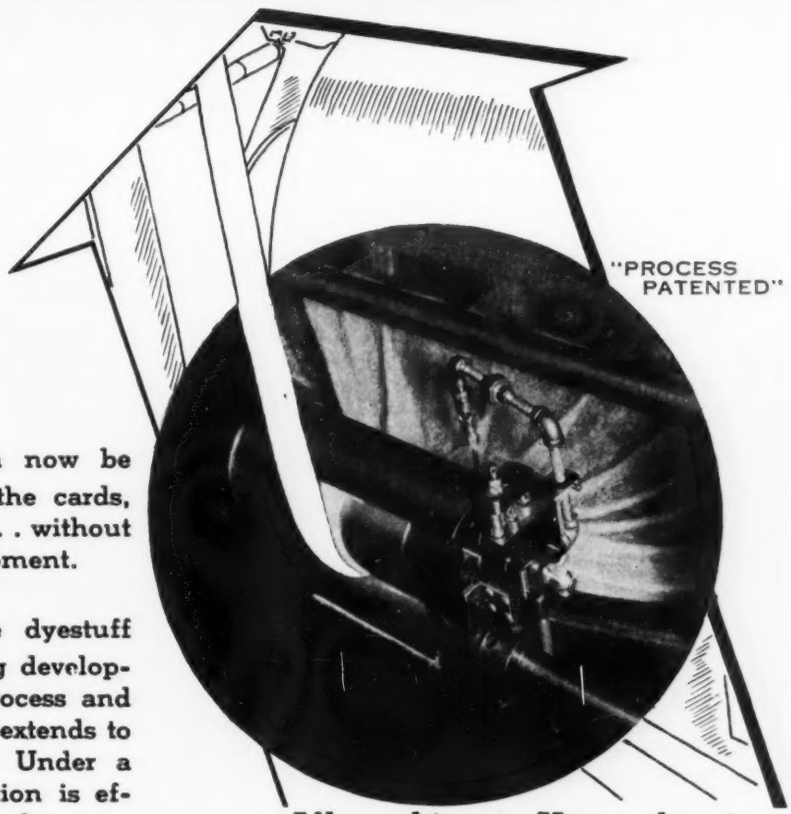
Announcing

MINOTINTS and MINODYES

They make YARN DYE PROCESSING *Tomorrow's News* TODAY!

★ ★ ★ **MINOTINTS** present a fundamentally different - a simplified, effective and economical Tinting Process for color application to slivers for Reverse Twist Yarns, and an unmistakable *identity* for varied constructions where Fugitive Dyes are essential.

★ ★ ★ **MINODYES** likewise advance an entirely new form of Fast Color treatment for Carpet Yarns, Wrapping Twines and allied materials.



Direct Color applications can now be made to cotton raw stock . . at the cards, hoppers, comber or any trumpet . . without heating . . without dyehouse equipment.

A Contact Deposit of the dyestuff keynotes this new color processing development. An ingenious, patented process and type of applicator, as illustrated, extends to the center of sliver as it forms. Under a "wiping contact", color distribution is effected by subsequent doublings, drawings and thorough penetration of the dye solvents.

All combine to Your advantage in MINOTINTS and MINODYES
Write for complete information!

Dependable Coloring ★ Simplified Production ★ Definite Economy

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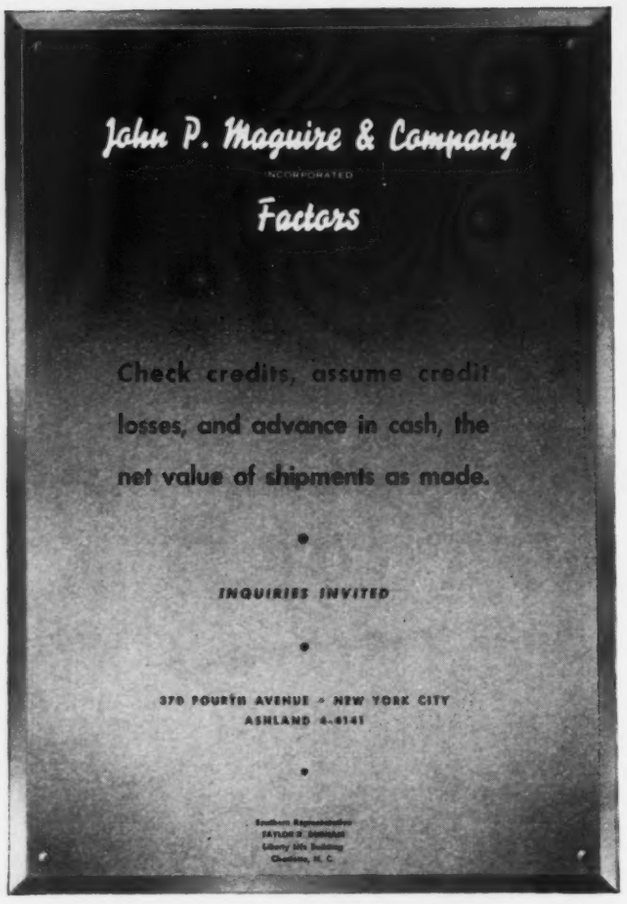
ORIGINATORS OF THE "OIL SPRAYING PROCESS" FOR COTTON . . THE "TINTINOL PROCESS" FOR TINTING FUGITIVE COLORS ON RAYON, ACETATE AND OTHER SYNTHETIC FIBRES.

NEW YORK, N. Y. CHARLOTTE, N. C.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These atomizers mix the air and water *inside* the Head instead of *outside* and put all the air to work instead of only *part* of it.

They operate on half as much air as ordinary heads and at lower pressure; therefore using *less* than *half* the power.

Any mill with atomizers that has as much as half the needed capacity can get all that is needed by replacing gravity Heads with RIHCO Heads, and with no additional compressor or power.

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Aldrich Machine Works Greenwood, S. C.

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NEWS ABOUT MEN

William H. Loftus, 71, vice-president of Clark Thread Co., died Feb. 4 in Newark, N. J. He had charge of the building of the company's plant at Austell, Ga., about 8 years ago.

Solomon C. Hottenstein, 56, president of Sircom Knitting Co., Spring City, Pa., died Feb. 2.

Charles Twining, 75, associated with Federated Textiles, Inc., New York, since its inception, and for 39 years previously with Clarence Whitman & Sons, died Feb. 13.

Howard F. Anderson, 65, retired rug manufacturer, died in Center Point, Pa., recently. He was vice-president of the old Scofield, Mason & Co., and became manufacturing head of Marshall Field & Co.'s mills in Philadelphia when the former firm was taken over by Marshall Field in 1920. He developed the "American-Oriental" type of rug.

Nathan E. Richman, 72, chairman of the board of Richman Bros. Co., clothiers, Cleveland, Ohio, died Feb. 17. He was a pioneer in the field of selling men's clothing direct to the consumer at a single price, and in the development of chain store distribution.

Albert Walker, 75, president of Ontario Dyeing Co., Philadelphia, died Feb. 17.

Rufus K. Thorne, 72, who some years ago terminated a 30-year connection as credit manager with General Chemicals Corp., now Allied Chemical & Dye Corp., died at Teaneck, N. J., Feb. 19.

Charles F. Ashley, 82, known as the perpetual mayor of New Bedford, Mass., until his retirement several years ago, died last month. He was elected 27 times and served a total of 32 years in the office of mayor. Mr. Ashley was well and favorably known to the textile industry of New Bedford.

Charles W. Davidson, 57, associated for 30 years with the American Woolen Co. as a Philadelphia salesman, but recently living in retirement in Florida, died at Miami last month.

Robert H. Schaen, 65, active in the cotton yarn trade of Philadelphia for 30 years, died at Ambler, Pa., Feb. 20.

Frank F. Woolley, 64, for many years agent and superintendent of the Coventry Co. mills, Anthony R. I. and in recent years in the cloth brokerage business in New York, died Feb. 17.

Gordon Taylor, 60, until ten years ago agent for American Woolen Co., Killingly, Conn., died in Oakham, Mass., on Feb. 26.

Lucien P. Lillie, 64, head of Dexter P. Lillie Co., New Bedford, Mass., cotton waste house, died Feb. 26. He entered the firm in 1894 when it was at Old Orchard, Me.

Ernest O. Patz, 70, head of Franklin Import & Export Co. and Nyanza Color & Chemical Mfg. Co., New York, died in White Plains, N. Y., early in March.

Robert D. Douglas, 75, former owner of the Textile Tube Co., Fall River, Mass., died on Feb. 23. He was born in Scotland and retired from business two years ago.

Monroe C. Killian, 71, owner and operator of the K. C. Hosiery Mill, Mohnton, Pa., died Feb. 18.

George B. Witter, 85, formerly secretary for 25 years of what is now the Rice Barton Corp., Worcester, Mass., manufacturers of textile machinery, died Feb. 5 in Worcester.

Henry K. Thompson, 73, active in the Philadelphia cotton yarn trade for 40 years until his retirement in 1926 died March 2 in Philadelphia.

Thomas M. Gardner, secretary of Southern Brighton Mills, Shannon, Ga., died Feb. 28 in Atlanta.

John Campbell Glover, 49, assistant to superintendent of twister room at Crescent Spinning Co., Belmont, N. C., died Jan. 30.

G. H. Lokey, 55, for 17 years superintendent of Winnsboro (S. C.) Mills until retirement a year ago, died on Feb. 5 at Murrells Inlet, S. C.

Juan A. Caldron, head of Caldron y Ropero, Buenos Aires manufacturers of woolen yarns and fabrics, died recently in Buenos Aires.

William W. Orswell, formerly treasurer of Pawtucket Dyeing & Bleaching Co., died at his home in Narragansett, R. I., recently.

Harry C. Dalton, cotton buyer for Boston Duck Co., Barnesville, Mass., and active for many years in matters concerning cotton classing, died last month.

Alfred O. Hero, head of the New Orleans office of Turner-Halsey Co., for many years, died last month.

Jacob E. Froneberger, 50, departmental superintendent of Gambrill Mfg. Co., Bessemer City, N. C., for many years, died recently.

George Washington Mullen, 67, foundry foreman of Textile Machine Works, Wyomissing, Pa., died Feb. 6.

H. W. Sturtevant, 75, cashier and head bookkeeper for Bradley Knitting Co., Delavan, Wis., for more than 35 years, died Feb. 8.

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Yes, Sir, we did just that, because we know you want us to subject our new Vat Printing Powders to your conditions and the most vigorous practical tests possible before we offer them to you— ***therefore we do this work under actual plant conditions.***

Extensive research has developed a line of completely dispersible Thioindigoid and Anthraquinone types which assure you an ease of preparation and application never before obtainable. These Vat Printing Powders give you hairline printing, better pattern definition and unusual penetration and fastness. For superior printing on cotton, rayon or silk specify National Carbanthrene Printing Powders.

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PHILADELPHIA	200-204 S. Front St.	ATLANTA	140 Peachtree St.	TORONTO	137-145 Wellington St., W.

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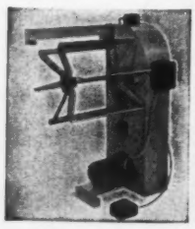
SKEIN REELING

with unique efficiency for ALL Kinds and Counts of Yarn

By this *new* twin-unit, single-operator method of skein reeling, FIDELITY machines quickly pay for themselves by savings that include time and floor space as well as cost. Result:—greater output per shift at a handsome saving—also less operator fatigue.

If increased output and savings interest you, send for Bulletin 361.

Single-end type for heavier yarns and shorter skeins; double-end type for yarns of finer count in longer skeins.



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Large Stocks... Uniform High Quality... Immediate Shipment... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

TEXTILE MILL NEWS

Cotton Mill News

Berryton (Ga.) **Mills** have increased the production of yarn to 18,000 lb. weekly.

Cheraw (S. C.) **Cotton Mills** have been purchased by Robert Jackson, hosiery mill operator of Gastonia, N. C., and operations are to be resumed this month.

Convenience, Inc., Greenville, S. C., has been chartered for manufacture of surgical bandages, absorbent cotton and the like; capital stock $130,000; officers, George Norwood, president and treasurer; W. D. Young, executive vice-president; R. C. McCall, secretary.

Danielson (Conn.) **Yarn Mills Corp.,** recently formed with capital of $100,000, plans operation of a local mill on cotton yarns. William J. Conway is president and treasurer; and William G. Burns, company representative.

Dover Mill Co., Shelby, N. C., has completed an addition to its offices, providing room for a testing laboratory.

Frieda Mfg. Co., Kings Mountain, N. C., is a newly organized mill for manufacture of 100s and 120s combed yarns. It will get into operation around June 1. The old Mountain View mill property has been purchased by Charles S. Williams, and machinery is being installed.

Gosnold Mills, New Bedford, Mass., are planning to install 200 more new automatic looms during the coming year, at an estimated cost of $175,000. During the past fiscal year approximately $240,000 was expended in new equipment.

Irene Cotton Mills, Taylorsville, N. C., formerly Carter Mills No. 2, is adding much new machinery, including 5,000 twister-spindles and two new winders. The mill is a subsidiary of the Gastonia (N. C.) Combed Yarn Corp. Robert Goldberg is president; G. A. Cooper, vice-president; C. C. Armstrong, secretary and treasurer, and A. A. Oliver, superintendent.

L. B. Jackson & Co., Asheville, N. C., has awarded contract to E. H. Edney, of Asheville, N. C., on a bid of $60,000, for construction of a linen plant at Charleston, S. C. The plant will be one-story, of brick and steel construction.

Klumac Cotton Mills, Inc., Salisbury, N. C., has changed its name to Barbara Mills, Inc. W. P. Hazelwood is president and treasurer; Arthur B. Hestwood, Jr., vice-president; Homer V. Weaver, secretary and assistant treasurer.

Lockmore Cotton Mill building, York, S. C., now vacant, was recently purchased from Textiles, Inc., Gastonia, N. C., by a group of York businessmen for $10,000. It is planned to organize a new cotton manufacturing corporation. The York (S. C.) Yarn Mills Corp. is being liquidated and part of its machinery is being moved into the Lockmore mill.

Longhurst Cotton Mills, Roxboro, N. C., have awarded general contract to George W. Kane, Greensboro, N. C., for one-story addition, for waste storage warehouse. Cost reported about $25,000, with equipment.

Mandeville Mills, Carrollton, Ga., has started construction of a two-story brick and steel addition 100x150.

Marshville (N. C.) **Cotton Mills** have been sold by Walter Lambeth of Charlotte, N. C., to Carolina Asbestos Co., Davidson, N. C., as part of the latter's $100,000 expansion program. Work will begin at once on renovation of the building and installation of equipment.

Minette Mills, Grover, N. C., have installed new package-dyeing machinery with the latest-type extracting and drying equipment, automatically controlled.

Pacific Mills, Lyman, S. C., unit will install 56 new Whitin model F-2 filling spinning frames equipped with the latest refinements, to replace old double-boss, band-drive machines which were equipped with an early type of long-draft.

Pepperell Mfg. Co., Lindale, Ga., has installed the newest-type package-dyeing machinery, automatically controlled, and the newest-type extracting and drying equipment, made by Gaston County Dyeing Machine Co.

Queen Anne Mills, Ellenboro, N. C., have completed installation of the newest-type package-dyeing machinery, automatically controlled, and latest-type extracting equipment.

Queen City Cotton Co., Burlington, Vt., equipment has been acquired for liquidation by the Crescent Corp., Fall River, Mass. The equipment includes 63,952 ring spindles, 1,243 looms and 105 cards.

Barber-Colman

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The Barber-Colman System of

SPOOLING *and* WARPING

PORTABLE WARP TYING MACHINES

for Tying Cotton, Wool or Rayon

MOISTURE CONTENT CONTROL

for Slashers and Tenters

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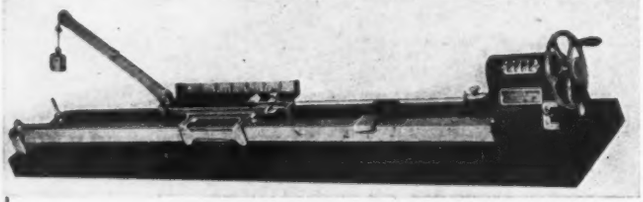

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SPECIALIZING IN
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MAINTENANCE, WASTE CONTROL,
NEW FIBRES AND PROCESSES

TEXTILE MILL NEWS

Rosemary Mfg. Co., Roanoke Rapids, N. C., is installing an American Monorail Co. conveying system in its slasher room.

S. Slater & Sons, Inc., Slater, S. C., is installing an American Monorail Co. monorail conveyor for handling beams from warper to storage rack and from there to slasher creels.

Stauffer-Dobbie, Ltd., Galt, Canada, is installing additional Type C5 Crompton & Knowles automatic towel looms.

Taber Mill, New Bedford, Mass., has been purchased by Robert J. Cohen of the General Scrap Iron Works of Providence, R. I., from the Taber Mill Corp. Mr. Cohen plans to rent the mill, as he does the former Grinnell, Booth and Page mills which he also owns.

Wool Mill News

Angora Mfg. Co., Montreal, Canada, is the first angora spinning mill in Canada.

Berkshire Textile Corp., Adams, Mass., has been incorporated by William Rudnick, Jacob Rudnick and Gilmore Rudnick of Pittsfield, Mass.

Biltmore Spinning Co., Asheville, N. C., newly organized, will maintain 720 mule spindles and 76 twister spindles on woolen yarns.

Delco Mills, Inc., Hopkinton, R. I., recently organized, has acquired plant and property of Wincheck Woolen Mills, Inc., Hope Valley, R. I., and will begin production at once. New company is headed by Ernest T. Voigt, and I. V. Gauthier, Providence, R. I.; and Francis M. Zambarano, Cranston, R. I.

Hillsdale (Mich.) **Mfg. Co.** has leased a one-story mill at Onaway, Mich., formerly used by Alpena Garment Co., and will occupy at once for new branch woolen mill. Initial operations will give employment to about 60 persons; with later increase to 200 employes.

Huntingdon Yarn Mill, 2601 North Howard St., Philadelphia, Pa., has been organized to spin fancy yarns for the knitting and weaving trades by George Berkenback, formerly with Clifton Yarn Mills and Rose Mills, and Miss C. M. Rudolph. The former is president and the latter secretary-treasurer.

Lebanon (N. H.) **Woolen Mills Corp.'s** plant is being altered at cost of $25,000; job is 55% completed. W. H. Trumbull, Hanover, N. H., has the general contract. Mark Linen-

Abstracts from Recent Financial Statements

Net profit, or net loss when preceded by minus sign

	1940	1939
Nashawna Mills	$137,509	$94,987
Sidney Blumenthal & Co	741,714	376,718
Nonquitt Mills	125,826	.....
Graniteville Co	451,090	375,999
Belding Heminway Co	421,505	402,355
Merrimack Mfg. Co	576,716	325,576
Skenandoa Rayon Corp	274,940	228,781
Riverside & Dan River Cotton Mills	390,870	446,727
Fruit of the Loom, Inc	69,252	142,236
Boott Mills	30,478	.....
Pacific Mills	−348,310	790,831
Tubize Chatillon Corp	1,509,520	1,138,955
Mohawk Carpet Mills	1,579,205	1,798,568
Holeproof Hosiery Co	50,054	141,641
Interstate Hoisery Mills	257,082	223,989
Soule Mill	34,513	−147,384
William Whitman Co	439,834	72,853
Newmarket Mfg. Co	164,045	402,927
Hartford Rayon Corp	64,951	68,007
Gotham Silk Hoisery Co	−149,159	155,981
Atlantic Rayon Corp	−18,902	131,600
New Jersey Worsted Mills	161,818	371,618
Brown Durrell Co	−224,634	−117,794
Cosmos Imperial Mills, Ltd	210,345	214,841
Phoenix Hosiery Co	154,055	481,142
Gosnold Mills	192,619	96,416
Worumbo Mfg. Co	146,803	−110,256
Utica Knitting Co	417,676	216,772
Powdrell & Alexander	134,422	184,452
Durham Hosiery Mills	36,761	115,401
Bruck Silk Mills, Ltd	58,309	30,278
Vanette Hosiery Mills	−18,765	127,554
Wayne Knitting Mills	336,698	408,164
Amoskeag Co	671,380	603,923
William Carter Co	554,880	508,373
Munsingwear, Inc	88,459	43,390
Davenport Hosiery Mills	288,099	247,413
Bigelow-Sanford Carpet Co	2,075,243	2,180,344
Real Silk Hosiery Mills	−341,955	169,536
Martel Mills Corp. (year ended Sept. 28)	177,459	−76,967
Russell Mfg. Co. (year ended Nov. 30)	240,545	56,767
Van Raalte, Inc	808,348	901,658
Patchogue-Plymouth Mills Corp	289,251	184,240
Brighton Mills	−101,815	17,886

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WATER REPELLENT IS THE KEY TO FASTER-SELLING FABRICS

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● Retailers know the value of the "Aridex" tag on their garments . . . know that this superior water repellent many times means the difference between a sale and no sale! Their customers want "Aridex" treated fabrics because "Aridex" contributes to comfort and dryness in all kinds of weather . . . rain, snow or sleet. And the faster goods move off retailers' shelves, the more they buy. That's why it pays to make sure fabrics are treated with "Aridex"!

"Aridex" covers the individual fibers of the cloth with an invisible film, but does not clog the pores of the fabric. It assures warmth and dryness, without hampering proper circulation of air. Adopt this "plus" selling feature. Write Du Pont for complete information about "Aridex."

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***RINSES*.. EASILY AND COMPLETELY**

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√ Gives the softest feel and better handle.

√ Makes colors brighter.

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You can hold your carding troubles in the palm of your hand When you use
Booth Quality Card Clothing
Benjamin Booth Co.
Allegheny Ave. & Janney St., Phila.

H. G. LORD *comments on*

The Disposition of Obsolete Machinery

See page 6

DRAYTON MILLS, Spartanburg, S. C., has installed Hygrade-Sylvania Corp.'s Miralume fluorescent lighting units in its modern weave room, providing 30-foot candles intensity on working plane. Each of 180 XD Model Draper looms is driven by a 1-hp. direct-connected G. E. motor and is lighted by one Miralume unit containing two 40-watt daylight fluorescent lamps corrected for power factor and stroboscopic effects; units are mounted at right angles to the looms at a height between 9 and 10 ft. from the floor. Maple flooring treated with Du Pont Penetrating Wood Finish to obviate scrubbing with soap and water eliminates accidents due to wet floors

thal, Boston, Mass., engineer, is in charge of plans.

Livingston Worsted Mills, Holyoke, Mass., is building a new weave shed, the first textile plant to be put up in Holyoke, Mass., since the Farr Alpaca Co. built the No. 4 cotton mill 18 years ago. Julius H. Stursberg is head of that concern. Work has been started on the structure by the Casper Ranger Construction Co. It will be 32x90 ft.; 20 new looms have been ordered.

Peerless Woolen Mill, Rossville, Ga., is enlarging its dye house. Contract was awarded to the Batson-Cook Co., West Point, Ga. Robert & Co., Atlanta, drew the plans.

Prairie du Chien (Wis.) **Woolen Mill** has installed three new spinning machines, a new cloth dryer and a dryer for raw stock. In addition, looms on the second floor have been rearranged to enable one man to operate two looms for certain types of cloth.

Renfrew (Ont.) **Woolen Mills** plan one-story addition to mill on Arthur St., reported to cost close to $160,000, with equipment. Proposed to begin work early in spring.

Texas Wool Scouring & Mfg. Co., Marble Falls, Texas, started up last month. Its warehouse will hold 10,000,000 lb. of wool.

Weil Bros. Textiles, Inc., New York, have bought the Crawshaw Carpet Co., Newburgh, N. Y., and will start up on production of reversible rugs. Crawshaw was founded 65 years ago. Assignees for benefit of creditors have approved the sale.

Medford (Mass.) **Wool Scouring Co.** has been established by A. L., F. C., F. X., and E. F. Rohmer, who have disposed of their interests in the Rohmer Wool Scouring Co., Newton, Mass.

Rayon & Silk Mill News

Aratex, Inc., Newtonville, Mass., has purchased building formerly Ponemah Mill, Taftville, Conn. Aratex is an outgrowth of Atlantic Research Associates, Inc., a subsidiary of National Dairy Products Corp. Product is a casein fiber called Aralac which at present is used by hatters for mixture with rabbit hair. F. C. Atwood, president of Atlantic Research Associates, states his concern has no textile fiber to offer at present.

S. M. Bloom, sales agent for Berger & Sherin, Inc., Elmira, N. Y., for the last five years, has purchased Porter-Dearington Textiles, Inc., Putnam, Conn., and will operate as the Putnam Mills Corp. The plant will be modernized and automatic supersilk box looms will be installed.

Burlington Mills, Inc., Greensboro, N. C., will install electric power equipment in additions to their silk and rayon mills in that city, Burlington and High Point, N. C. The entire cost of $1,500,000 will be financed through sale of preferred stock to the amount of $3,000,000.

Canadian Industries, Ltd., Kingston, Ont., will build a $1,500,000 plant for manufacture of Nylon yarn.

Celanese Corp., New York, N. Y., has asked bids for new

HOLDING POWER!

Patented

UNBRAKO

Reg. U. S. Pat. Off.

SELF-LOCKING SET SCREWS with the KNURLED POINTS

SET "Unbrako" Self-Lockers up with no more than an ordinary pull and the ingenious knurled points dig in to provide a real, honest-to-gosh grip.

For, once in place, "Unbrako" Self-Lockers can't work loose no matter how severe the unwinding tendency. Yet they're easily adjusted or removed and they can be used over and over again with equal effectiveness.

Contrast this unfailing Knurled "Unbrako" protection with the uncertain performance of ordinary set screws which are sometimes the cause of costly breakdowns and delays because of their failure to hold. Small wonder that maintenance men in many of the largest and best known mills in the country have standardized on "Unbrako" and more are following suit—all the time.

What about your own set-up? If you're not already using them, "Unbrako" Self-Lockers can save trouble and expense for you too. Details?

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1000 DOZENS DAILY

HOSIERY FINISHING

A PRODUCTION in excess of 1,000 dozens full fashioned ladies' hosiery is being finished daily on the 13 PARAMOUNT DUAL HEAT MACHINES operated in this mill during one eight-hour shift—and the character and quality of the work is incomparable since the PATENTED DUAL HEAT principle of drying is positive protection against "baking" delicate silk fabrics. Not only does the PARAMOUNT DUAL HEAT MACHINE contribute outstanding features of production and quality, but it represents—

1. Less investment per dozen
2. A minimum of floor space occupancy
3. Less power and steam consumption per dozen
4. Ideal room and working conditions
5. Less maintenance
6. Ease and comfort to the operator
7. Simplicity and durability of construction

Any one feature alone, of the numerous advantages which the PARAMOUNT DUAL HEAT MACHINE offers, will justify a change to this superior method of hosiery finishing.

WRITE FOR DETAILS

Furnished on SALE or RENTAL Plan.

PARAMOUNT TEXTILE MACHINERY CO.

538 South Wells Street Chicago, Illinois

additions to branch mill near Pearisburg, Va., consisting of several one and multi-story units for expansion in processing and other divisions. Cost estimated close to $500,000, including equipment. Reports are current that size of plant may be doubled.

Collins & Aikman Corp., Bristol, R. I., plans one-story addition to local mill, reported to cost close to $60,000, including equipment.

Godfrey H. Conze and **Fritz Kloeckener,** New York, have purchased the Sunbury, Pa., plant and property of the Susquehanna Silk Mills and will continue operation under the name of Susquehanna Silk Mills, Inc. Mr. Conze was president of the old Susquehanna corporation and Kloeckener was vice-president.

Courtenay Mfg. Co., Newry, S. C., has converted 100 looms to rayon manufacture and plans to use 300 looms before long, which is half of the plant's capacity.

Gloria Rayon Mill, a unit of Burlington Mills Corp., Johnson City, Tenn., will erect an addition to provide 10,000 sq. ft. floor space.

Leon-Ferenbach Silk Co., Johnson City, Tenn., Lewis T. Harrower, manager, announces plans for expanding the plant, which call for 1,750 additional square feet.

Lexington (N. C.) **Silk Mills,** a unit of Burlington Mills Corp., Greensboro, N. C., has awarded contract to Barger Brothers Co., Mooresville, N. C., for one-story addition, to double present floor space. Large increase in capacity will be carried out. Cost reported over $100,000, with equipment.

Sociedad Industrias Quimicas "Duperial," the Argentinian subsidiary of E. I. du Pont de Nemours & Co., will erect plant near Buenos Aires for production of cellophane and Nylon.

Standard Ribbon Corp., Stroudsburg, Pa., plans new one-story branch mill at Milton, Fla., where site has been selected. Cost reported close to $40,000, with equipment.

Tubize Chatillon Corp., New York, N. Y., has awarded contract to A. K. Adams Co., Atlanta, Ga., for foundations for new addition to mill at Rome, Ga., at price of $15,500. Award for superstructure will soon be made. Expansion is reported to cost over $250,000. This will be part of mill development program of company during 1941, for which a total fund of approximately $2,500,000 has been arranged.

Knitting Mill News

B & K Hosiery Co. has started operations on Memorial Street, in Franklin, N. H., with a Government contract for 175,000 pairs of men's woolen half hose.

Charles H. Bacon Co. will install $100,000 worth of new full-fashioned machinery at its Loudon (Tenn.) plant. The company also plans to re-equip its half-hose unit at Lenoir City, Tenn.

Brunswick Knitting Mills, Inc., 1543 Mission St., San Francisco, Calif., plan rebuilding of portion of mill damaged by fire, with loss of $12,000.

Burns Hosiery Mill, with W. W. Burns, manager, has recently started up at Hickory, N. C.

Cheraw (S. C.) **Hosiery Mill,** idle for some time, has been acquired by Robert Jackson, of Gastonia, N. C., who plans to reopen plant soon.

Early Bird Hosiery Mill, Hickory, N. C., newly organized, is housed in a building which formerly housed the Preslar Hosiery Mill. Forty machines are operated on half-hose and anklets. P. A. Mullins established the new mill.

W. P. Elliott Knitting Mills, Marion, N. C., have been sold by W. P. Elliott to Charles Barnes, who has been with the company for some time. W. P. Elliott will soon build a new knitting plant to produce men's hose.

Globe Underwear Co., Shoemakersville, Pa., has work under way on new two-story addititon to mill, to cost $45,000, including equipment.

Jac Feinberg Hosiery Mill, Inc., Rock Hill, S. C., plans early construction of one-story addition, about 65x90 ft., for expansion in main knitting department, with installation to include eight new hosiery machines and auxiliary equipment.

Arnold Hansen Knitting Co., Bethel, Conn., recently organized with capital of $25,000, plans operation of mill in vicinity of Bethel. Arnold Hansen, Bethel, is president; and C. Edgar Lee, New Canaan, Conn., secretary and treasurer.

Headland (Ala.) **Hosiery Mills, Inc.,** has work underway on the first of its proposed three units.

Henderson-Menzies Co., Hickory, N. C., has been organized by Sterling Menzies and C. H. Henderson. The company will convert half-hose and anklets.

International Knitting Mills, Inc., Wallingford, Conn., recently organized with capital

HOW MUCH PER SOCK DO YOU PAY FOR PARTS?

If you are figuring the cost of your knitting machine replacement parts on a "per sock production" basis, you have long since discovered how much more expensive it is to use "cheap" repair parts rather than genuine Scott & Williams parts.

Your S & W knitting machines are highly complex, precision engineered and built machines, installed by you to serve your customers better and increase your profits. You could not expect a local machine shop to produce such machines. Can you expect it, then, to produce duplicates of their original parts? A duplicate can be made only over the same designs and tools, by the same methods, from the same materials, by the original maker, who alone understands the function of each part and its relation to the complex whole.

Scott & Williams, Inc., has designed much of its manufacturing equipment specially for its own particular needs; and seventy-five years of experience with materials have resulted in discovery of special sources of supply, special material formulae and special methods of heat-treating. It is, therefore, practically impossible for any other plant to make exact duplicates of Scott & Williams knitting machine parts.

Unless parts are replaced with duplicates, you must expect increased percentages of rejects, lower machine efficiency and decreased production due to "cheaper" replacement parts. The use of Scott & Williams parts for Scott & Williams machines is true economy and the only safe procedure.

Our active parts stock is complete. Your orders will be filled promptly—usually shipments are being made the day the order is received. Teletypewriter service is free from our New York and High Point offices.

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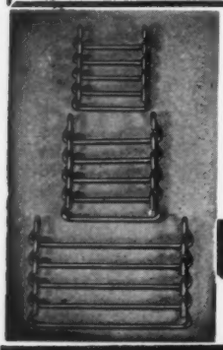

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LAWRENCE, MASS.

NONQUITT MILLS
NEW BEDFORD, MASS.

WILLIAM WHITMAN COMPANY, Inc.
NEW YORK BOSTON PHILADELPHIA CHARLOTTE

TEXTILE MILL NEWS

of $50,000, plan early operation of local mill. New company is headed by Irving and Bernard Factor, both of Wallingford.

Kingsboro Mills, Gloversville, N. Y., will move to McMinnville, Tenn., and occupy the plant on Sparta street, formerly occupied by Welwood Silk Throwing Mills.

Knit-to-Fit Mfg. Co., Montreal, Canada, will erect a 60x200 ft. addition, five stories, at cost of $75,000.

Marshall Hosiery Mill, Benton, Ky., has been sold to Stephen Weir and Blair Klein of Philadelphia who will pay for the machinery on a productive profits basis.

Princeton Knitting Mills, Watertown, Conn., has contracted with the Bartlett-Brainard Co., Hartford, for the construction of a 3-story addition, 80x120 ft.

Renfro Hosiery Mills Co., Mount Airy, N. C., has purchased the old Hennis Bldg.

Shoaf-Sink Hosiery Co., Lexington, N. C.—Application for permanent receiver has been made by L. L. Sink.

Siler City (N. C.) **Hosiery Co.** has completed an addition to increase floor space of the plant 20%. Additional machinery is being installed.

Standard Knitting Mills, Chattanooga, Tenn., are constructing a $12,000 addition to their No. 1 factory building.

Trianon Hall, Tappahannock, Va., is location of a new hosiery mill, financed by outside funds, for manufacturing cotton, silk and Nylon hosiery. Plant will operate 24 hours.

Unique Knitting Co., Acworth, Ga., has placed an order for additional Komet knitting machines. When these are installed, the company will have a total of 72 of this type.

Utica (N. Y.) **Knitting Co.** has entered into new contract with T. W. U. A. involving a 7% wage advance as of Mar. 3 and one week's vacation with pay for employees of one year or more service.

Varynit Mills, Franklin, Ind., has leased plant formerly occupied by McLaughlin Mfg. Co., for making knitted underwear and sportswear. H. R. Moss is vice-president and treasurer.

Whisnant Hosiery Mills, Hickory, N. C., will build addition to plant to increase production 30%.

C. K. Williams & Co., Easton, Pa., are constructing new boiler house. Lockwood Greene Engineers, Inc., are in charge.

Processing Plant News

Dixie Finishing Co., Inc., Emporia, Va., with Daniel Belmonte agent in charge of business, has been incorporated to dye, bleach, print and process textiles and piece goods. Plant previously built will be doubled. Maximum capital is $150,000.

Franklin Process Co., Providence, R. I., will award contract at once for a new dryer room addition to dyehouse, new laboratory and office additions at Allen avenue and Eddy street.

French Dye Works, Inc., Scranton, Pa., has nearly completed one-story addition on Nay Aug Ave. to be used as a dyehouse. Cost reported about $25,000.

Grant Finishing Co., Paterson, N. J., has begun work on spun rayon fabrics at 24½ Van Houten St. Sidney Raines is president and general manager.

Hygrade Finishing Co., Paterson, N. J., recently organized, has taken over former local mill of De Gise Piece Dye Works, and will modernize and equip for new dyeing and finishing mill.

Manchester (N. H.) **Dyeing & Finishing Co.** has taken over the newest and most modern unit of the former bag mill of the old Amoskeag Mills from Amoskeag Industries, Inc., and plans to begin work soon on dyeing and finishing hosiery.

Marshall Field & Co., Spray, N. C., have awarded general contract to John Smith & Sons, Leaksville, N. C., for two-story addition, 102x151 ft., to branch mill at Draper, N. C., to be equipped as dyehouse. Cost estimated over $85,000, with equipment. Robert & Co., Atlanta, Ga., are architects.

Rock Hill (S. C.) **Printing & Finishing Co.** has work under way on addition to boiler house, for which general contract recently was let to Fiske-Carter Construction Co., Spartanburg, S. C., reported to cost over $100,000, with equipment.

Southbridge (Mass.) **Finishing Co.** has filed plans for a 3-story brick warehouse 80x325 ft. Lockwood-Greene Engineers, Inc., New York, are the engineers.

Union Bleachery, Greenville, S. C., has constructed an addition, two stories, 75x85 ft., designed to permit rearrangement of office space and machinery.

Artistic Dye Works, Inc., 312 East Bay St., Milwaukee, Wis., has begun erection of one-story addition, 28x48 ft., to be used for storage and distribution. Cost estimated about $20,000, with equipment.

Textile World's GUIDE TO EXHIBITS

SOUTHERN TEXTILE EXPOSITION

Textile Hall, Greenville, S. C.
March 31 to April 5, 1941

ON THIS and the following pages are given detailed descriptions of the booths at the Fourteenth Southern Textile Exposition, Textile Hall, Greenville, S. C., March 31 to April 5. Booth numbers, a list of products to be displayed, and representatives are included in the report of each individual exhibit which has been announced to date.

Abbott Machine Co., Wilton, N. H. Booths 212–213. Automatic winders for warping cones and loom bobbins, and automatic drop-wire machines. Rep.: E. J. Abbott, W. G. Abbott Jr., L. S. Ligon, S. A. Roane, J. T. Johnson, Joseph Ring, F. L Hendricks.

Aldrich Machine Works, Greenwood, S. C., Booth 250. Synchronized single-process picker; cleaning, blending, and distributing machines; Type B humidifiers requiring low power; blending feeder with positive-locking intake door that prevents overloading. Rep.: A. P. Aldrich Jr., Robert Aldrich, Roy Perry, J. E. Brown.

Alemite Div., of Stewart Warner Corp., Chicago, Booth 405. Alemite lubricants and lubricating equipment; progressive lubricating system. Rep.: Craus, Stewart, Tilton, Keser, Sandiford.

Allen Mfg. Co., Hartford, Conn., Booth 113-A. Allen Pressur-Formd and Tru-Ground screws; pipe plugs. Rep.: W. G. Taylor Jr., Julian Sargent, E. S. Grant, C. J. Meister.

Allentown Bobbin Works, Inc., Allentown, Pa., Booth 316-A. Bobbins and spools for silk and rayon. Rep.: H. W. Mack.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., Booth 487. Quick-Clean electric motors, Texrope drives, centrifugal pumps; newest types of variable-speed spinning frame drives, and new all-in-one motor-pump for general purposes. Rep.: William Parker and sales engineers.

Louis Allis Co., Milwaukee, Wis., Booth 108. Electric motors. Rep.: G. C. Gardner, C. Q. Mason, J. G. Green, V. B. Hooper, Louis Allis, Jr.

Aluminum Co. of America, Pittsburgh, Pa., Booths 455–456. Aluminum parts for textile machinery; continuous motion picture on aluminum. Rep.: C. Braglio.

TEXTILE WORLD will maintain headquarters in booth 223-4 at the Southern Textile Exposition, Greenville, S. C., March 31 to April 5. Cordial invitation is extended to visitors to make this booth their business headquarters while in Greenville. Representatives of TEXTILE WORLD'S editorial and business staffs will be in attendance. Visitor's mail, sent to our Greenville office, 310 Woodside Building, or to our booth, may be picked up at the booth.

American Air Filter Co., Inc., Louisville, Ky., Booths 317–318–319. Electro-Matic air filter and other air-cleaning machines and devices. Rep.: J. R. McConnell, H. J. Noles.

American Brass Co., Waterbury, Conn., Booths 450–451–452. Anaconda tubes, pipe, conduit and rollers; welded fittings and storage tanks; welding rods. Rep.: H. F. Braman, R. S. Burr, Howard Coe, H. M. Peck, E. T. Lang.

American Crayon Co., Sandusky, Ohio, Booth 325. Karpon floor sealer and finisher, mill crayons, industrial adhesives and glues. Rep.: John Hester, W. G. Youse.

American Cyanamid & Chemical Corp., New York, Booth 490. Chemical specialties, oils, softeners, penetrants, and finishers for the textile trade. Rep.: Hugh Puckett, E. H. Driver, E. J. Adams, C. B. Suttle Jr., J. B. Button, J. B. Hunter, H. W. Rose, M. J. Wixson.

American Lumber & Treating Co., Chicago, Booth 436. Treated lumber for protection of mills and mill houses against decay and termites. Rep.: R. B. Putman, R. T. Shipp.

American Magnesium Corp., Cleveland, Booth 455–456. Magnesium warp

beams and other light-weight parts for textile machinery. Rep.: H. Menking.

American Moistening Co., Providence, R. I., Booth 132. Devices for supply, maintenance, and regulation of applied humidification; evaporative cooling apparatus and regulators. Rep.: Marvin McCall, J. E. Boston, B. A. West, W. L. Johnson, J. D. Johnson, H. B. Bradford, F. J. Orme.

American Mutual Liability Ins. Co., Boston, Booth 345. Booth devoted to comfort and convenience of clients. Rep.: A. A. Hyatt, W. H. Heston, W. I. Blanton.

American Rolling Mill Co., Middletown, Ohio, Booths 462–463. Stainless steel grades for use in textile equipment; manufactured articles for the textile industry made from stainless steel. Rep.: J. H. Faunce, R. A. Dadisman, R. M. Nelson, C. G. Farabee.

American Safety Table Co., Reading, Pa., Booths 227–228. Electric drives, individual stands, safety tables, collar and cuff pressing machines. Rep.: E. W. Hollister, J. W. Fite, M. T. Voigt.

American Steel & Wire Co., Cleveland. See U. S. Steel Corp.

American Wool and Cotton Reporter, Boston, Booth 208. Textile publishers.

Armstrong Cork Co., Textile Div., Lancaster, Pa., Booth 140. Accotex and cork cots for spinning and card room rolls, assembling and buffing machinery, temple rolls, clutch disks, roll coverings; new Accotex long-draft aprons. Rep.: J. V. Ashley, W. T. Coker, D. N. Herr, H. H. Jordan, D. P. Paiste, F. G. Richards, D. T. Starkey, G. C. Baer, T. L. Hill, W. B. Tucker.

Armstrong Machine Works, Three Rivers, Mich., Booth 489-A. Steam traps and steam type humidifiers. Rep.: O. E. Ulrich, T. H. Rea, A. T. Shepherd, W. T. Harding Jr.

Arnold, Hoffman & Co., Inc., Providence, R. I., Booth 464. Textile sizes and other chemicals. Rep.: E. H. Arnold, T. H. Roberts, J. A. Bryant, C. L. Eddy, W. C. Cobb, H. T. Buck, J. R. Brown, J. H. Graham, Phil Lavoie, W. T. Smith, Erwin Laxton.

Ashworth Bros., Inc., Fall River, Mass., Booths 120–121. Card setting machine and samples of types of card clothing, metallic clothing wire. Rep.: R. C. Ashworth Jr., E. H. Isenhour, J. M. Reed, C. B. Thomason, R. B. Wilson, A. E. Johnston.

Atlanta Brush Co., Atlanta, Ga., Booths 453–454. Brushes for textile industry; shipping supplies. Rep.: T. C. Perkins, G. B. Snow, W. C. Perkins, G. B. Daub.

Atlanta Paper Co., Atlanta, Ga., Booth 340. Special textile cases, corrugated containers, wrapping papers, twine, printed and plain tape, and miscellaneous paper items used by mills. Rep.: J. R. Belsinger, K. V. Robinson, J. C. Shutze, Frank Olver, T. L. Elliot, Frank Benton.

Atwood Machine Co., Stonington, Conn., Booth 486. Doubler- and uptwisters, including new Atwood Model 110 operating on headless packages; heavy-duty large-package twister. Rep.: F. R. Hoadley, W. M. Fraser, H. M. Bailey, F. Sails, K. B. Chapman, A. E. Winslow, E. R. Duncklee.

Bahan Textile Machinery Co., Inc., Greenville, S. C., Booths 137–138. Repair and replacement parts for textile machinery. Rep.: W. H. Bahan, E. F. Bahan, P. J. Bahan, G. F. Bahan, J. C. Williamson, N. M. Neal, W. R. Rothrock, W. H. Maudling, T. H. Boyd, C. L. Green, R. M. Greer, J. C. Funderburk.

Bahnson Co., Winston-Salem, N. C., Booths 216–217–218. Adjustomatic atomizer, air conditioning equipment, and the new Humiduct with noiseless fan; Westinghouse Precipitron. Rep.: S. C. Stimson, DeParx Stimson, I. L. Brown, R. B. Crosland, F. S. Frambach, D. D. Smith, A. H. Bahnson, Jr.

Barber-Colman Co., Rockford, Ill., Booths 247–248–249. Portable warp-typing machines for cotton, wool, and rayon; temperature and humidity controls; moisture-content control for slashers and tenters; warpers, and spoolers. Rep.: J. H. Spencer, N. H. Alford, S. R. McElroy, E. W. Rogers, F. D. Taylor, James Savage, W. P. Turner, B. A. Peterson, R. G. Ross, L. M. Howell, L. L. Lideen, W. M. Norton.

Bassick Co., Bridgeport, Conn., Booth 437. Truck casters for light- or heavy-weight duty. Rep.: E. P. Ripley.

Bemis Bro. Bag Co., Brooklyn, N. Y., Booth 355. Burlap and cotton tubing. Rep.: E. P. Fuller, W. O. Howell, C. D. Wagner.

Benjamin Electric Mfg. Co., Des Plaines, Ill., Booth 113. Demonstration of latest developments in fluorescent lighting and lighting equipment for textile mills. Rep.: I. H. Stockel, D. M. Woodside.

Birch Bros., Inc., Somerville, Mass., Booth 221. Machine for removing twist after cloth is wet-processed in rope form; butt-seam portable sewing machine; curved bar rubber expander; Coronation chain-stitch sewing machine. Rep.: H. W. Birch, J. C. Cosby, P. L. Cooke.

Blue Ridge Glass Corp., Kingsport, Tenn., Booth 304. Figured and wire glasses with heat-absorbing and glare-reducing properties. Rep.: J. S. Herbert, J. S. Watson, J. G. Mackenzie.

Charles Bond Co., Philadelphia, Booth 448. Leather specialties and belting, including check straps, harness straps, lug straps, pickers, binders; also flexible steel couplings, truck casters, gears, speed reducers. Rep.: C. C. Bond, H. C. Smith, J. C. Turner.

Bowen-Hunter Bobbin Co., East Corinth, Vt. See Greenville Textile Supply Co.

Bradley Washfountain Co., Milwaukee, Wis., Booths 305–306–307. Stainless-steel, enameled, and pre-cast stone fountains; Rep.: R. G. Owen, W. H. Shepard.

Bristol Co., Waterbury, Conn., Booths 431–432. Time-temperature recorder-controller, wet- and dry-bulb psychrometer, portable recording thermometers and thermo-humidigraphs. Rep.: H. E. Beane, H. A. Van Hala, J. N. Swarr, F. A. Faust, S. I. Lyons.

Brown Instrument Co., Philadelphia, Booths 420–421–422. Indicating, recording, and control instruments for regulation of temperature, pressure, flow, humidity, and liquid level in textile processes; new Moist-o-Graph for controlling slasher speeds to obtain desired moisture content. Rep.: E. B. Evleth, L. M. Morley, K. R. Knoblauch, R. A. Weikel, A. E. Krogh, D. C. Culver, V. P. Tassi, S. T. Herr, A. H. Koch, W. D. Doublas Jr., B. W. Cullen.

Bunting Brass & Bronze Co., Toledo, Ohio, Booth 479. Babbitt metals and bronze bearings and bushings. Rep.: G. H. Adams, W. C. Bracken, G. N. Fisher, K. I. Homan, D. C. Spaulding.

H. W. Butterworth & Sons Co., Philadelphia, Booths 123–124. Laboratory type padding machine and heavy-duty micro-set pad. Rep.: H. W. Butterworth, Jr., DeHaven Butterworth, J. E. Butterworth, J. H. Zahn, W. S. Rowley, W. E. H. Bell.

Carborundum Co., Niagara Falls, N. Y. Booths 312–313. Abrasive cloth and Texalox roll coverings. Rep.: R. C. Clements, W. H. Wylie, Jr.

Carnegie-Illinois Steel Corp., Pittsburgh, Pa. See U. S. Steel Corp.

Charlotte Leather Belting Co., Charlotte, N. C., Booth 317-A. Textile leathers, belting, long-draft spinning aprons. Rep.: J. E. Beattie, F. R. Cochrane, J. L. Harkey, J. E. McKenna, R. M. Pindell, Jr.

Chemical Processing Co., Charlotte, N. C., Booth 338. Finishing oils, warp sizes, specialties; synthetic Japan wax; Pendet penetrants and detergents; Chenpromine softeners. Rep.: R. N. Jones, H. H. Latham, J. V. Thomason.

Clinton Co., Clinton, Iowa. Booths 205–206. Textile starches, syrups, and sugars. Rep.: Harold Goller, George Moore, Luther Knowles, Grady Gilbert, Boyce Estes, Gordon Enloe, G. E. Corson, R. E. Clizbe.

Clover Leaf Mfg. Co., Honesdale, Pa., Booth 110-B. Bobbins and spools, steaming crates, pin boards, cone gages, stainless-steel and fiber reel caps, redraw brackets. Rep.: R. P. Bennett, W. A. Kennedy, J. Stein.

Cocker Machine & Foundry Co., Gastonia, N. C., Booth 488-A. Warpers, including spindle-driven warper for rayon. Rep.: D. L. Friday, J. C. Bodansky, E. K. Whitener, T. F. Suggs.

Coffing Hoist Co., Danville, Ill., Booth 119. Hoists of electric, ratchet-lever, and spur-gear types. Rep.: F. L. Dwiggins.

Colt's Patent Fire Arms Mfg. Co., Hartford, Conn., Booth 102. Electrical safety switches and motor controls, including new manual and magnetic controls. Rep.: L. H. McClure, A. B. Fink, Neill Lassiter.

Columbia Steel Co., San Francisco, Cal. See U. S. Steel Corp.

Continental-Diamond Fibre Co., Newark, Del., Booth 106. Vulcanized fiber roving cans, doff boxes, and trucks for handling materials; silent gears made of fabric bonded under extreme pressure. Rep.: C. L. Simmons, F. L. Cooper, F. W. Vandiver, H. T. Nelson.

Corn Products Refining Co., New York, Booth 457. Starches and sizes. Rep.: Fred Mueller, A. A. Hardin, Harry

EVENTS OF TEXTILE WEEK IN GREENVILLE

Monday—Exposition opens at 11:00 A. M.; principal address by Governor Maybank of South Carolina.

Tuesday—Luncheon at Poinsett Hotel for visiting Rotarians.

Wednesday—Attendance at the show of the General Assembly of South Carolina; ball sponsored by the Greenville Chapter of Bundles for Britain.

Thursday—Dinner and meeting of American Society of Mechanical Engineers.

Friday—Joint meeting of Southern Textile Association, Alabama Textile Operating Executives, and Textile Operating Executives of Georgia.

Saturday—Exposition closes at 4:00 P. M.

Wilmerding, J. C. Alexander, C. G. Stover, W. R. Joyner, L. H. Kelley, J. A. Simpson, J. R. White, T. A. Mott Jr., Ralph Miller, Earl King.

Cotton, Atlanta, Ga., Booth 408. Textile publishers.

Dana S. Courtney Co., Chicopee, Mass. See Greenville Textile Supply Co.

Crompton & Knowles Loom Works, Worcester, Mass., Booths 134–135–136. Loom Models W, S5, and C4; double-lift, double-cylinder jacquard. Rep.: F. W. Howe, Jr., R. N. Deal, J. C. Irvin, S. P. V. Desmond, and representatives from main office.

Crouse-Hinds Co., Syracuse, N. Y., Booth 471. Conduits, floodlights. Rep.: F. C. Smith, M. J. Booth, C. A. Hausman, J. J. Jerry.

Curtis & Marble Machine Co., Worcester, Mass., Booths 238–239. Duplex sewing and winding machine, automatic shearing machine, electronic control for inspecting machines, float thread shear revolver, steel-bladed beater. Rep.: W. F. Woodward, F. C. Bryant, R. L. Marble, F. H. MacKay.

Roger W. Cutler, Boston, Booth 111. Sak tape, temple rolls, sewing thread, and loom pickers. Rep.: R. W. Cutler, L. C. Briggs, 3rd., Byrd Miller, Bradford Hodges, Jesse Hodges.

Cyclone Fence Co. See U. S. Steel Corp.

Dayton Rubber Mfg. Co., Dayton, Ohio, Booth 145. Loom pickers, lug straps, holdups, wiper blades, cots, arbors, and roll coverings; running tests to illustrate resistance of cots and coverings to grooving. Rep.: J. O. Cole, R. L. Wetzel, H. M. Bacon, J. D. Hershey.

Decorated Metal Mfg. Co., Inc., Brooklyn, N. Y., Booth 352. Made-to-order textile spools and bobbins. Rep.: Theodore Dewhurst.

Denman Tire & Rubber Co., Warren, Ohio, Booths 465–466. See Terrell Machine Co.

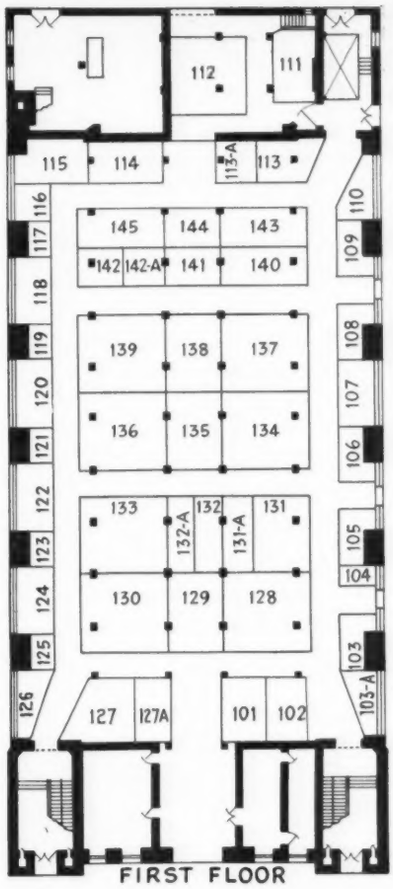
Diagraph-Bradley Stencil Machine Corp., St. Louis, Mo., Booths 453–454. Stencil machines, fountain markers and brushes, stencil boards and inks, and other shipping room supplies. Rep.: J. G. Burton, G. E. Daub, Clif Perkins, Jr.

Diehl Mfg. Co., Elizabethport, N. J., Booth 232–233. General line of spinning frame and loom motors; general purpose motors for mill application, creel fans, air circulators, and portable bench grinders. Rep.: P. N. Thorpe, H. B. Thorpe, Daniel Woodhead, W. J. Jockers, S. G. Boyd, A. R. Booth.

Dow Chemical Co., Midland, Mich., Booth 483-A. Dowmetal magnesium alloys, sand castings, die castings, extruded shapes. Rep.: O. E. Grant, L. H. Stewart.

Draper Corp., Hopedale, Mass., Booths 128–129–130. New X-2 high-speed loom; new XU Model loom weaving hard duck; XD Model loom weaving acetate satin; XK and XP Model looms weaving rayon staples; display of improved loom repair parts, spindles and rings, shuttles and shuttle eyes, temples, temple rolls, and bobbins. Rep.: B. H. B. Draper, B. H. B. Draper, Jr., E. N. Darrin, T. H. West, C. H. Draper, W. M. Mitchell, R. S. Brice, W. M. Brice, W. K. Child, T. Henderson, L. C. Lockman, R. W. Poole, C. L. Williams, W. P. Ellis, F. A. Ridenour, S. A. Stone, C. H. Turner, C. H. Warren.

E. I. du Pont de Nemours & Co., Finishes Div., Atlanta, Ga., Booth 461. Paint products including industrial and village finishes, floor finishes, glare-reducing window finishes, Dulux mill white.



Rep.: T. A. Seals, L. R. Collins, E. M. Hill, H. L. Norton.

E. I. du Pont de Nemours & Co., Rayon Div., New York, Booth 445. Fabrics made of du Pont rayon. Rep.: F. F. Hubach, O. F. Long, P. F. Haas, J. M. Ulmer, H. M. Peters, G. F. Brackett, Jr.

Economy Baler Co., Ann Arbor, Mich., Booths 465–466. See Terrell Machine Co.

Fafnir Bearing Co., New Britain, Conn., Booth 209. Ball bearings. Rep.: S. D. Berg, C. A. Berg, A. G. Laughridge, H. B. Chamberlin, W. D. Davis.

Fairbanks, Morse & Co., Chicago, Booth 449. Motors, pumps, and precision instruments and indicators, including Printomatic attachment. Rep.: H. N. Baum, L. J. Maguire, H. J. Gable, Roy Meeks, E. W. Morgan, J. B. Terrell, W. O. Pittman, T. G. Young, G. R. Bollinger, O. O. Lewis.

Fairchild Publications, New York, Booth 308. Textile publishers.

Faultless Caster Corp., Evansville, Ind., Booth 203-A. Casters for textile use. Rep.: J. H. Davis, W. T. Sutherland.

Fibre Specialty Mfg. Co., Kennet Square, Pa., Booth 478. Seamless fiber roving cans, fiber and Steel-Klad trucks and boxes, new Streamliner truck, complete line of textile casters. Rep.: R. G. Henderson, G. B. Scarlett, R. A. Craig, H. R. Chandler, B. C. Plowden, Ralph Woods.

Finnell System, Inc., Elkhart, Ind., Booth 110. Mill floor maintenance systems including one-operation scrub, rinse, and pickup machine; cleaners, solvents, soaps, sealers, and preservatives. Rep.: W. S. Finnell, R. M. Bliss, J. L. Anderson, L. E. Arnold, J. T. Core, A. P. Sears.

Fiske Brothers Refining Co., Lubriplate Div., Newark, N. J., Booth 334. Display of moving bearings and gears illustrating lubricants to meet textile problems. Rep.: A. L. Day, J. F. Welch, and representatives from southern district.

Fletcher Works, Inc., Philadelphia, Booth 108-A. Latest model Apex twister operating on weaving yarns and doubler twister for combination yarns, both equipped with Oilwell spindles; 30-in. standard extractor. Rep.: R. J. Bartholomew, F. W. Warrington, Warren Egee.

Foster Machine Co., Westfield, Mass., Booths 229–230–231. Nylon sizing and winding machines; Model 102 winder. Rep.: E. C. Connor, F. P. Brooks, F. F. Stange, E. P. Dodge, J. K. Salva, W. Durham.

Foxboro Co., Foxboro, Mass., Booths 426–427. Indicating, recording and controlling instruments, temperature controllers, humidity controllers, portable recorders for temperature and humidity, control systems for pneumatic loading of squeeze rolls, elapsed time-temperature controllers. Rep.: Ralph Hayden, Jr., E. S. Lawson, W. W. Barron, E. G. Cullings, R. W. Allen, John Larson, G. F. Clark.

Friden Calculating Machine Co., Charleston, S. C., Booth 314. Supermatic calculators. Rep.: R. M. McGillivray, W. J. Barbour, Jr., H. B. Harper, Bruce Harper, H. C. Harper, O. P. Busby.

A. F. Fyans, Fall River, Mass., Booth 353. Silver King fiber roving cans, fiber-lined steel trucks and doff boxes, all-fiber boxes. Rep.: A. F. Fyans, R. B. Buffington.

Gates Rubber Co., Denver, Colo., Booths 341-342. Rubber-and-fabric loom pickers, Vulco ropes, and other rubber textile accessories. Rep.: Fred Siegrist, O. C. Williams, Frank Traver.

General Electric Co., Schenectady, N. Y., Booths 116–117–118. Operating display of stroboscope for checking color register in printing; Tri-clad motor, circuit breakers, limit switches, relays, and other control equipment. Rep.: W. W. Cronkhite, A. P. Mansfield, R. B. Hanna, E. D. McKellar, R. S. Paden, R. H. Jackson, F. C. Alexander, J. H. Fowler, E. A. Hancock, F. C. Smith.

General Electric Co., Incandescent Lamp Dept., Cleveland, Booth 115. New Mazda and fluorescent lamps for lighting textile mills; demonstration of lighting practices. Rep.: D. R. Grandy, George Taylor, T. M. Moore, F. E. Keener, C. N. Knapp, G. E. Parks, A. L. Reas.

L. H. Gilmer Co., Philadelphia, Booth 225. See Greenville Textile Supply Co.

Graton & Knight Co., Worcester, Mass., Booth 404. Leather belting with pivoted motor base; textile leathers including check straps, pickers, harness straps, jack straps; other leather specialties. Rep.: D. A. Ahlstrand, F. W. Tisdell, Oliver Landis, Hugh Black, E. L. Morris, D. R. Jewett.

Greenville Textile Supply Co., Greenville, S. C., Booth 225. Booths will be occupied by McLeod Leather & Belting Co., Odell Mill Supply Co., Greenville Textile Supply Co.; representing: Bowen-Hunter Bobbin Co., Dana S. Courtney Co., Cutler-Hammer Co., L. H. Gilmer Co., Hope Webbing Co., Frank E. Paige Co., Walker Manufacturing Co., Wheeler Reflector Co. Rep.: D. R. Dickson, C. Q. Mason, T. M. Bailey, R. B. Dorman, Hugh Graham, Gene Brigham, J. W. Williams, W. T. McLeod, C. E. Bailes, W. L. Brigham, K. A. Fisher, Gene Barnhardt, Dallas Neese, George Bachelor, R. T. Osteen, W. W. Conard, C. B. Frost, Ernest Bowen, C. P. Parks, H. A. Barnes, C. M. McClure, Jr., C. M. Richardson, M. R. Oberholzer, W. H. Lehr, R. F. Luber, B. T. Holland, Jr.

Gulf Oil Corp., Pittsburgh, Pa., Booth 211. Display of petroleum products and their application to textile industry. Rep.: A. O. Buntin, L. T. Daughtridge, H. C. Roane, R. O. Mohley, A. C. Wright, E. G. Williams.

H & B American Machine Co., Pawtucket, R. I., Booth 112. Five-roller 8x4 high-draft slubber; 4-roller high-draft spinning frame, 4-in. gage, 8-in. traverse; Model G twister, 5-in. gage, 9-in. traverse. Rep.: J. C. Martin, E. J. McVey, G. W. Murphy, C. M. Powell, F. Dickinson, F. Zweifel, H. J. Jones, F. Hunt, R. Hesmondhalgh, G. E. Repass, S. Walsh, J. Miller.

Hercules Powder Co., Wilmington, Del., Booths 331–332–333. Pine oil and other textile chemicals. Rep.: Frank Rapp, W. A. Haines, George Bossert.

Henry H. Hersey, Greenville, S. C., Booth 406. Representing A. C. Lawrence Leather Co. Display of leathers and leather roll coverings and belting. Rep.: H. H. Hersey, John Gilfillan.

E. W. Hollister, Spartanburg, S. C., Booths 227–228. See Merrow Machine Co.

Hope Webbing Co., Providence, R. I. See Greenville Textile Supply Co.

E. F. Houghton & Co., Philadelphia, Booth 423. Cotton softeners, wetting-out agents, detergents, soaps, warp sizes: rayon sizes, and softeners; lubricants, belting, strapping. Rep.: W. H. Brinkley, C. B. Kinney, T. E. Hansen, S. P. Schwoyer, D. O. Wylie, L. L. Brooks, J. J. Reilly, V. C. Shadden, J. W. Byrnes.

Howard Bros. Mfg. Co., Worcester, Mass., Booths 242–243. Card clothing for cotton, woolen, worsted, and asbestos mills; hand stripping cards; loom heddles. Rep.: G. L. Melchor, C. M. Moore, J. F. Childs, H. C. Coley, N. A. Mitchell.

Huntington & Guerry, Inc., Greenville, S. C., Booth 219. Illustrations of good practice in installation of electrical equipment in industrial plants. Rep.: R. S. Huntington, DuPont Guerry, Jr., J. H. Howard, J. R. Rutledge, J. A. Griffeth.

Hyatt Bearings Div., General Motors Corp., Harrison, N. J., Booth 222. Roller bearings for use in cotton, silk, rayon, and wool preparatory, weaving, and finishing machinery. Rep.: W. L. Iliff, H. K. Porter, H. M. Carroll, J. M. Grady, F. U. Naughton, Jr., E. P. O'Neill.

Hygrade Sylvania Corp., Salem, Mass., Booth 488. Display of fluorescent lamps and lighting fixtures. Rep.: R. M. Rausch, M. S. Chauncy, Don Follmer, J. R. Duffy, C. G. Pyla.

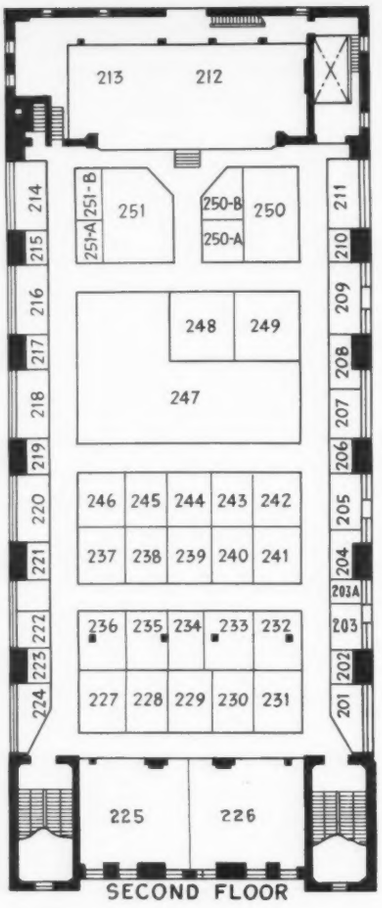
Industrial Steels, Inc., Cambridge, Mass., Booth 428. Stainless-steel sheets, bars, angles, pipe, tubing, and fittings for textile mills and textile machinery. Rep.: R. C. Cunningham, R. E. Mason.

International Business Machines Corp., New York, Booths 335–336. Electric time recorders, time stamps, selftion feeder, dry chemical feeder. Rep.: J. M. Kahn, C. H. Starling.

International Filter Co., Chicago, Booths 322–323–324. Aso chemical solution feeder, dry chemical feeder. Rep.: J. M. Kahn, C. H. Starling.

International Salt Co., Inc., Scranton, Pa., Booths 315–316. Lixate salt dissolver. Rep.: N. M. Agnew, R. H. Leavelle, R. M. Tarrant.

E. H. Jacobs Mfg. Co., Danielson, Conn., Booth 403. Canvas, wood, and rubber accessories for looms. Rep.: W. I. Bullard, E. J. Bullard, S. B. Henderson, L. L. Froneberger, Thomas Soucy, Jr.



SECOND FLOOR

Jenkins Bros., New York, Booths 440–441. Line of bronze, iron, and steel valves. Rep.: C. B. Yardley, H. J. Barnsley, E. L. Dean, E. C. Barrett.

Johns-Manville Corp., New York, Booth 477. Industrial building materials, insulation, asbestos-cement pipe. Rep.: T. J. Roberts, R. S. Hammond, A. S. Royal, H. C. Drummond.

Johnson Bronze Co., New Castle, Pa., Booth 444. Bronze parts, bearings, bushings for textile machinery. Rep.: I. M. Valentine, T. E. Lyons, L. G. Klinker.

Johnson Corp., Three Rivers, Mich., Booth 489-B. Rotary pressure joint. Rep.: R. O. Monroe, Ralph Gotschall, A. T. Shepherd, W. T. Harding, Jr.

Kearny Mfg. Co., Inc., Kearny, N. J., Booths 480 & 485. Yarn conditioning machines for bobbins and cones, psychrometers, static card stripper, conditioning devices for high-speed winders. Rep.: H. E. Kresse, W. P. Rutley, John Klinck, J. A. Lechler, D. A. Smith, J. H. Hodge.

Keever Starch Co., Columbus, Ohio, Booth 407. Textile starches. C. J. Kurtz, J. F. Kurtz, C. B. Iler, L. J. Castile, F. M. Wallace.

Kidder Press Co., Inc., Dover, N. H., Booth 354. Electric neutralizing equipment. Rep.: W. C. Glass.

S. C. Lawlor Co., Chicago, Booths 301–302. Floor scrubbing, wax-polishing, and buffing machines; combination scrubber and water absorber; mopping tanks, all-steel mop wringers. Rep.: H. A. Brim.

F. A. Lazenby & Co., Inc., Baltimore, Md., Booth 244. Cop and butt winders, bobbin winders, and accessories. Rep.: J. D. Lazenby, O. R. Payne, C. A. Bridener.

Thos. Leyland Machinery Co., Readville, Mass., Booth 460. Expander bars with malleable iron clutches, composition clutches for finishing machinery, rubber-covered expander bars for use on light goods and rayons. Rep.: S. A. Mathews.

Limerick Yarn Mills, Limerick, Me., Booth 350. Bradford spun mohair, rayon, worsted, alpaca, camel hair yarns for weaving and knitting. Rep.: R. C. Stidston, R. E. Banks.

Link-Belt Co., Chicago, Booth 220. Operating equipment from World's Fair exhibit including silent and roller chain drives and PIV gear variable-speed transmission. Rep.: Horace Bowman, H. D. Mitchell, W. J. Nighbert, W. F. Hardcastle, G. F. Scarbrough.

Lunkenheimer Co., Cincinnati, Ohio, Booths 429–430. Line of bronze, iron, steel, and corrosion-resistant alloy valves, lubricators, oil cups, for general use in textile industry. Rep.: E. L. Hertenstein, W. H. Burkitt, E. P. Word.

Macbeth Daylighting Corp., New York, Booths 309–310. Cotton classing lamp, new color-matching skylights, latest developments in fluorescent lighting. Rep.: Norman Macbeth, F. F. Phillips.

Mathieson Alkali Works, New York, Booths 469–470. Liquid chlorine, caustic soda, soda ash, bicarbonate of soda, aqua ammonia, new finishing materials. Rep.: F. O. Tilson, J. R. Harrington, J. W. Ivey, R. C. Staples, M. K. Sanders, A. L. Dubeau, Z. N. Holler.

McLeod Cos., Greensboro, N. C. See Greenville Textile Supply Co.

McLeod Leather & Belting Co., Greensboro, N. C. See Greenville Textile Supply Co.

Merco Nordstrom Valve Co., Pittsburgh, Pa., Booth 416. Meters, lubricated plug valves. Rep.: W. F. McAulay, C. S. Phillips, F. G. Swaffield.

Mexico Refractories Co., Mexico, Mo., Booth 337. Castable refractory materials; bonding mortars; plastic, slag-resisting, flint clay, and insulating fire brick. Rep.: E. C. Tinsley, J. R. McNamara, J. R. Turpin, P. P. McGarity, P. R. Garretson, Delmus Broome.

Merrow Machine Co., Hartford, Conn., Booths 227–228. Trimming and overseaming, overedging, plain crochet and shell-stitch machines; especially adapted machines for use on work gloves, gauntlets, pillow cases, shirts, socks. Rep.: E. W. Hollister, R. B. Moreland, L. H. Talmadge, M. T. Voigt, John Fite.

Miller Co., Meriden, Conn., Booths 424–425. Fluorescent lighting systems. Rep.: G. G. Harney, J. J. Perry, Jr.

Mitchell & Smith, Inc., Detroit, Mich., Booth 142. Cork cots, cork temple rolls, cork specialties. Representatives.

Monroe Calculating Machine Co., Orange, N. J., Booths 346–347–348. Calculating machines. Rep.: M. K. Patton.

Myles Salt Co., New Orleans, La., Booth 484. Salt dissolvers. Rep.: J. C. Drake, W. A. Levins, E. R. Ravenel, W. G. Ware.

National Carbon Co., Inc., Cleveland, Ohio, Booth 141. New carbon-arc unit for determining fastness of dyes; carbon and graphite products for textile industry, including pipe and fittings, heat exchangers, bearings, packings. Rep.: H. F. Anderson, A. S. Callaway, L. E. Dequine, C. H. Christensen, M. J. Dorcas, C. G. Ollinger.

National Ring Traveler Co., Providence, R. I., Booth 214. Spinning and twister travelers. Rep.: L. E. Taylor, O. V. Pratt, H. B. Askew, W. S. Johnstone, P. C. Wentworth.

National Starch Products, Inc., New York, Booths 326–327. Textile starches, sizes, printing gums, and display of fabrics. Rep.: C. A. Gage, J. J. Fitzgerald, J. W. Ogletree, C. C. Ware, R. T. Clarke.

National Tube Co., Pittsburgh, Pa. See U. S. Steel Corp.

New Departure Div. of General Motors Corp., Bristol, Conn., Booth 472. Display of ball bearings, treadle roll bearings, tension pulley bearings developed for use on up-twisters; working scale model demonstrating forging of ball bearings. Rep.: R. D. Brouwer, L. D. Cobb, R. O. Wirtemburg, C. B. Beckwith, J. P. Collins.

New York & New Jersey Lubricant Co., New York, Booth 109. Non-fluid oil. Rep.: F. L. Thomason, J. R. Huss, F. D. Jacoway, J. A. Sorrells, Jr., W. C. Taylor, F. W. Phillips, J. H. Bennis.

Wm. R. Noone & Co., Boston, Booth 488. Roller, clearer, and slasher cloths. Rep.: G. H. Bridge.

Norma-Hoffman Bearings Corp., Stamford, Conn., Booth 101. Display of ball, roller, and thrust bearings, including several types of sealed ball bearings. Rep.: E. W. Lawrence, W. G. Sargent.

Oakite Products, Inc., New York, Booths 329–330. Textile detergents for use in boiling off silk hosiery, scouring woolen goods, de-oiling rayon; cleaning materials for floors, dye vats, humidifying systems, and machinery. Rep.: Eustace Lingle, J. J. Basch, M. E. Withers, F. A. Hull.

Odell Mill Supply Co., Greensboro, N. C. See Greenville Textile Supply Co.

Pabst Sales Co., Industrial Products Div., Chicago, Booth 328. Textile sizes. Rep.: W. A. Pardue.

Frank E. Paige & Co., Boston, Booth 225. See Greenville Textile Supply Co.

Parks-Cramer Co., Fitchburg, Mass., Booth 435-A. Demonstration of textile mill air conditioning controlled by automatic Air Changer and Psychrostat; traveling cleaners for spinning frames, winders, warpers, spoolers, and other equipment featuring adjustability of air volume and direction; humidifiers, regulators, and dustless card stripper. Rep.: R. S. Parks, P. A. McKittrick, W. B. Hodge, J. R. Henderson, W. H. Burnham, O. G. Culpepper, H. B. Rogers, W. J. Buck, W. B. Walker.

Parks & Woolson Machine Co., Springfield, Vt., Booth 311. Textile machinery. Rep.: R. F. Hadley.

Penick & Ford, Ltd., Inc., Cedar Rapids, Iowa, Booths 438–439. Textile cornstarches, dextrins, gums, sugars, syrups. Rep.: D. P. O'Connor, H. A. Horan, P. G. Wear, O. R. Steffens, G. L. Morrison, J. H. Almand, W. J. Kirby, T. H. Nelson, Jr., C. T. Lassiter, G. M. Anderson.

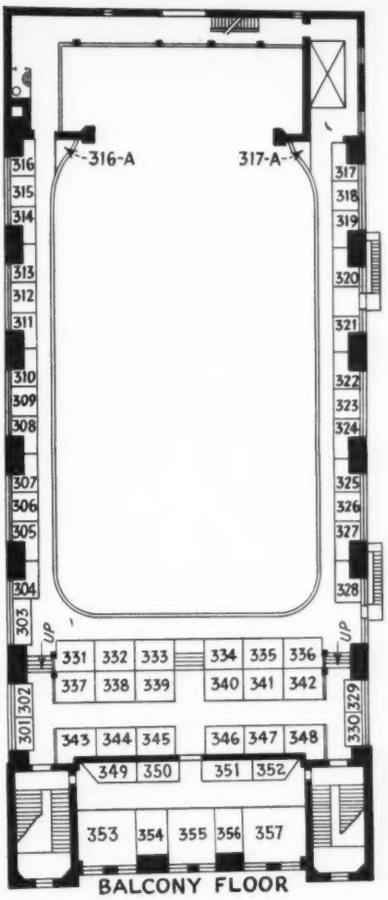
Plibrico Jointless Firebrick Co., Chicago, Booth 442. Jointless firebrick, castable refractory material, monolithic boiler settings, boiler baffles. Rep.: O. L. Ballard, M. C. Ballard, F. S. Rieder.

Powers Regulator Co., Chicago, Booth 435. Automatic temperature and humidity controls, indicating and recording thermometers, controllers for pressure and temperature, self-contained temperature regulators, pressure reducing valves, steam traps, diaphragm valves, automatic thermostatic water controls. Rep.: F. E. P. Klages, E. R. Foss, W. C. Heckeroth, Wm. Joyce.

Ragan Ring Co., Atlanta, Ga., Booth 127. Spinning and twister rings and ring travelers. Rep.: Ralph Ragan, J. D. Willingham, J. H. Foard.

Rayon Publishing Corp., New York. Booth 215. Textile publishers.

Reeves Pulley Co., Columbus, Ind., Booths 240–241. Variable-speed transmissions, pulleys, and drives; special unit demonstrating wind-up and unwind, automatic speed control, automatic tension control, reverse and stop for various



weights of cloth. Rep.: C. L. Irwin, D. B. Rush, D. W. Clem, W. C. Erwin, D. M. McSpadden, James Cook.

Robert Reiner Inc., Weehawken, N. J., Booth 127-A. All-purpose high-speed beaming machine, high-speed creels and tensions. Rep.: Robert Reiner, Fritz Lambach, August Schoenenberg.

Reliance Electric & Engineering Co., Cleveland, Booth 143. Self-cleaning textile motors, loom motors, and general purpose electric motors. Rep.: K. S. Lord, J. W. Corey, P. W. Arnold, A. L. Lemon, A. L. Pollard, W. H. Compton.

Republic Steel Cop., Cleveland, Booths 473–474–475–476. Steel products demonstrating uses and applications of stainless steel in textile field; display includes fabricated equipment. Rep.: C. C. Snyder, G. W. Hinkle, J. E. Goodavage, S. M. Ewing, R. C. Hudson.

J. E. Rhoads & Sons, Philadelphia, Booths 245–246. Tannate Rockwood drives and Gripotan belts. Rep.: J. E. Rhoads, R. H. Rhoads, J. B. Rhoads, G. R. Mitchell, J. W. Mitchell, A. S. Jay, J. T. Hoffman, L. H. Schwoebel, C. D. Wright, S. L. Allen.

Rhode Island Warp Stop Equipment Co., Pawtucket, R. I., Booth 131. Drop wires, electrical warp stop motions for looms. Rep.: E. C. Smith, W. D. Whittaker, Frank Quance, W. L. Ferguson.

Rice Barton Corp., Worcester, Mass., Booth 349. Engineering data and services for textile printers. Rep.: S. B. Stafford, D. B. Stafford, H. A. Smith.

Ridge Tool Co., Elyria, Ohio, Booths 413–414. Ridgid pipe wrenches, pipe threaders, pipe vises, pipe cutters, tubing cutters. Rep.: W. L. Parcell, R. D. Fye.

B. S. Roy & Son Co., Worcester, Mass., Booth 207. Card grinders. Rep.: J. R. Roy, H. C. Schwager, J. G. Moller.

Saco-Lowell Shops, Boston, Booth 226. New spring-weighted roll attachment, continuous card stripper, tension pulley, roller-top rayon card, spinning frame demonstrating Type Z and controlled-draft spinning. Rep.: W. F. Lowell, E. C. Gwaltney, James Strang, C. W. Howe, U. E. Dubois, Wm. Wood, R. M. Jones, M. D. Shaffner, W. K. Dana, Walter Gayle, Alex Davis, F. R. Lowe, H. P. Worth, John Graves, Miles Comer, Mac Walsh, R. M. Lindsay.

Selig Co., Atlanta, Ga., Booths 301–302. Floor-maintenance materials, disinfectants, scrub soaps, deodorants, insecticides, floor finishes, janitors' supplies. Rep.: Chas. Pearl, S. E. Weiss, A. D. Strauss, L. L. Strasburger, J. E. Nelson, H. A. Brim.

Seydel-Woolley & Co., Atlanta, Ga., Booths 320–321. Twist setters, yarn conditioners, penetrants, shuttle dressings. Rep.: Paul Seydel, Vasser Woolley, E. A. Scott, J. R. Seydel.

Shell Oil Co., Inc., New York, Booth 483. Processing oils, lubricating oils and greases, fuel oils, technical products for textile finishing. Rep.: F. W. Spooner, C. B. Hoffman, J. Trexler.

Sherwin Williams Co., Philadelphia, Booths 401–402. Paints and paint products. Representatives.

Sinclair Refining Co., New York, Booth 103-A. Complete line of lubricants for textile machinery and equipment. Rep.: F. W. Schwettman.

Singer Sewing Machine Co., New York, Booths 232–233. Sewing machines and driving equipment for cotton mills, bleacheries, and allied industries. Rep.: J. P. Baiter, H. C. Morehouse, L. C. Molloy, J. C. Lewis, C. E. Cain, C. S. Womack, J W. Daley, S. MacLerie.

J. E. Sirrine & Co., Greenville, S. C., Booth 203. Textile engineers. Representatives: Members of the firm.

S K F Industries, Inc., Philadelphia, Booths 409–410–411. Complete line of ball- and roller-bearing changeover units, tension pulleys, spindles, transmission appliances. Rep.: R. H. DeMott, R. W. Franklin, R. C. Byler, B. F. Davis, J. J. Haggerty, N. Miller, M. H. Courtenay, G. E. Allen, G. M. Boullion, C. N. Benson, H. A. Fonda, Dr. H. Styri.

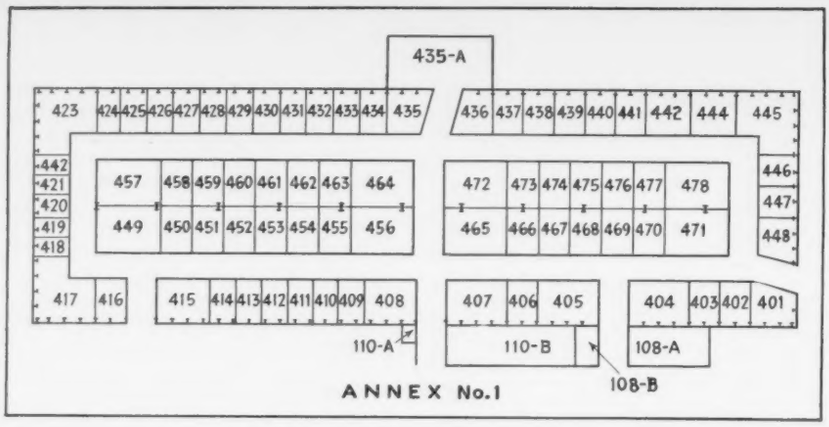
Smith, Drum & Co., Philadelphia, Booth 133. Textile dyeing machinery and equipment. Rep.: Harry Drum, J. E. MacDougall, W. C. Dodson, J. M. Ballentine.

Socony-Vacuum Oil Co., New York, N. Y., Booths 343–344. Specialized lubricants for textile machinery, including Velocite spindle oils. Rep.: C. G. Swank, F. H. Trewin, Bruce Cotton, E. T. Gregorie, G. W. Roberts, G. J. Van Liew, P. H. Gibbs.

Sonoco Products Co., Hartsville, S. C., Booth 237. Roving cans, cork and Koroseal cots, underclearer rolls; line of paper carriers including cones, tubes, spools, cores. Rep.: W. B. Broadbent, W. A. Biggs, W. M. Carpenter, H. F. Gaffney, E. S. Reid, P. F. Williams.

Southern Shuttles, Inc., Greenville, S. C., Booth 139. First demonstration of telescopic lock-screw high-speed shuttle bobbin grip, automatic shuttle eyes with adjustable tension devices, shuttles for weaving all types of fabrics. Rep.: L. P. Batson, J. J. Kaufmann, Jr., D. L. Batson, Sam Zimmerman, Jr., H. R. Gaffney, B. R. Cole, V. A. Graff, C. W. Cain, H. P. Goodwin, I. G. Moore, O. T. Daniel.

Spaulding Fibre Co., Camden, N. J., Booth 482. Vulcanized fiber roving cans, boxes, trucks, sheets, rods, tubes; fabri-



cated parts and gear stock. Rep.: A. L. Wright, G. F. Anderson, E. A. Marshall.

A. E. Staley Mfg. Co., Decatur, Ill., Booth 415. Textile starches and corn syrups. Rep.: C. H. Davidson, I. F. Wieland, A. R. Fuller, W. H. Randolph, Jr., G. A. Dean, L. A. Dillon, W. T. O'Steen, H. A. Mitchell, H. F. Taylor, Jr., W. N. Dulaney.

Standard Oil Co. of N. J., Columbia, S. C., Booth 481. Oils, greases and lubricants. Rep.: G. E. Williams, D. S. Lewis, W. H. FitzSimons.

Steel Heddle Mfg. Co., Philadelphia, Booth 139. New reeding machine, chrome-hardened textile machine parts, flat steel heddles, harness frames, loom harness accessories. Rep.: J. J. Kaufmann, Sr., R. J. Freitag, L. P. Batson, J. J. Kaufmann, Jr.

Stein, Hall & Co., Inc., New York, N. Y., Booths 467–468. Corn, wheat, potato, sweet potato starches. Rep.: I. L. Griffin, Edwin Stein, Edward Butts, D. E. Truax, T. C. Davis, W. B. Strickland, W. N. Kline, Jr.

Stodghill & Co., Atlanta, Ga., Booth 108-B. Gums, sizes, softeners, tallow, finishing oils, sulphonated oils. Rep.: W. L. Whisnant, L. L. Watkins, J. F. Oliver, J. W. Simmons, Jr., W. C. Gibson, C. M. Stodghill, Jr., J. S. Cheney, C. C. Collins, C. A. Herndon.

B. F. Sturtevant Co., Boston, Booths 104–105. Unit heaters, slasher exhaust fans, centrifugal compressors, Vortex vacuum cleaner. Rep.: W. L. Hunken, H. J. Waggle, J. K. Jernigan, D. C. Hathaway, H. C. Moore, Jr., J. C. Marlow.

Sullivan Hardware Co., Anderson, S. C., Booth 488. Long-draft aprons, mill supplies. Rep.; J. G. Hamilton, S. B. Sullivan, W. C. Watkins, E. E. Lovern.

W. O. & M. W. Talcott, Inc., Providence, R. I., Booth 412. Fasteners for leather belts, special fasteners for rubber, fabric, and woven composition belts. Rep.: M. W. Talcott, G. W. Little.

Taylor-Colquitt Co., Spartanburg, S. C., Booth 210. Creosoted and treated poles, timbers, lumber. Rep.: M. P. Brown, Wilkins Cagle, Frank Kendrick, Jack Monroe, M. S. Hudson.

Taylor Instrument Cos., Rochester, N. Y., Booths 446–447. Indicating, recording, controlling instruments for temperature, pressure, humidity; Fulscope process timer, time-schedule controller, Flex-O-Timer, slasher control systems. Rep.: F. S. Ward, L. B. Swift, F. K. Taylor, E. J. Hanna, H. M. Barker, H. J. Barker, H. E. Hansen, J. A. Grant.

Tennessee Coal, Iron & Railroad Co. See U. S. Steel Corp.

Terrell Machine Co., Charlotte, N. C., Booths 465–466. Type L rayon and silk quill cleaning machines, Type K bobbin stripper, bobbin box hoist, bobbin conveyor-elevator; card room bobbins, spools, cones, and other textile wood specialties. Denman loop and reversible pickers, lug straps, holdups, and miscellaneous fabricated loom parts; Economy Baler. Rep.: E. A. Terrell, J. J. Wilson, I. P. Graham, R. B. Smith, W. S. Terrell, J. E. Watts.

Textile Age, New York, Booth 303. Textile publishers.

Textile Bulletin, Charlotte, N. C., Booth 204. Textile publishers.

Textile-Finishing Machinery Co., Providence, R. I., Booth 114. Bleaching, dyeing, printing, finishing, and Sanforizing equipment. Rep.: W. Taylor, B. B. Scantland, A. H. Goff, S. A. Moffitt.

Textile World, New York, Booths 223–224. Textile publishers.

Henry G. Thompson & Son Co., New Haven, Conn., Booth 142-A. Rezistor hacksaw blades. Rep.: T. E. Hereford.

Tide Water Associated Oil Co., New York, Booths 356–357. Tycol lubricants for the textile industry. Rep.: H. G. Mullen, R. H. Mariner, W. H. Young, H. D. Chase.

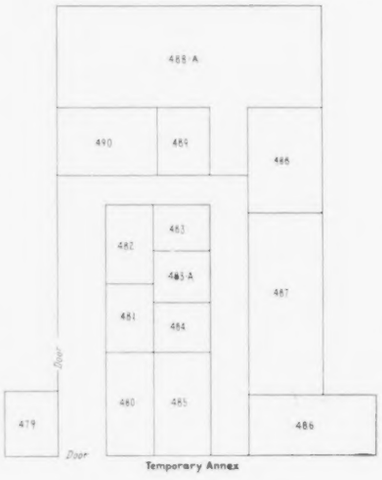
Toledo Scale Co., Toledo, Ohio, Booths 458–459. Scales with automatic indication; lap weighing scale, small high-accuracy scales for laboratory. Rep.: W. F. MacKinnon, W. M. Randolph.

Tolhurst Centrifugal Div. American Machine & Metals, Inc., East Moline, Ill., Booth 103. Latest extractors including new 48-in. Suprex. Rep.: J. R. Angel, C. W. Anderson, T. A. Bryson, W. C. Davis.

Truscon Steel Co., Youngstown, Ohio. See Republic Steel Corp.

U. S. Gutta Percha Paint Co., Providence, R. I., Booth 201. Barreled Sunlight interior and outside paint. Rep.: A. S. West, J. S. Palmer, L. K. Palmer, W. M. Moore, C. L. Park, T. C. Roggenkamp.

U. S. Ring Traveler Co., Providence, R. I., Booths 433–434. Bronze and steel ring travelers in numerous styles and sizes. Rep.: W. P. Vaughan, O. B. Land, T. L. Maynard, W. H. Rose, A. M. Bowen.



United States Steel Corp. and Subsidiaries, Pittsburgh, Pa., Booth 122. Featuring stainless-steel tubing, copper-steel tubing, steel roofing and siding sheets, plain carbon and alloyed tubular material, formed parts manufactured from mechanical tubing, scale-free pipe, Duroline pipe. Participating are American Steel and Wire Co., Carnegie-Illinois Steel Corp., Columbia Steel Co., Cyclone Fence Co., National Tube Co., Tennessee Coal, Iron & Railroad Co., Universal Atlas Cement Co. Rep.: J. D. Alexander, R. A. Goldschmidt, J. F. Kimball, R. W. Mueller, A. S. Robinson, J. C. Leitch, H. C. Esgar.

U. S. Textile Machine Co., Scranton, Pa., Booth 110-A. Latest equipment for throwing rayon, silk, and Nylon weaving and knitting yarns. Rep.: A. W. Thomas, P. J. Thomas, James Marshall.

Universal Atlas Cement Co. See U. S. Steel Corp.

Universal Winding Co., Providence, R. I., Booths 234–235–236. New No. 99 automatic bobbin winder; Roto-Coner winding open-wind packages of cotton yarn; No. 150 machine for winding heavy cotton yarns. Rep.: Robert Leeson, E. O. Smith, A. R. Breen, T. L. Cotter, R. L. Chisholm, E. R. Swanson, I. E. Wynne, R. M. Mauldin, J. W. Stribling.

Veeder-Root Inc., Hartford, Conn., Booth 107. Counters of all types for use in textile industry, including pick counters, hank counters, yardage counters, and cut meters. Rep.: G. H. Anthony, J. H. Chaplin, A. E. Kallinich, R. W. Bailey, Edwin Howard, J. W. Verner, P. W. Coleman.

Victor Ring Traveler Co., Providence, R. I., Booth 250-B. Ring travelers. Rep.: E. R. Jerome, R. L. Smith, T. L. Richie, B. F. Barnes, Jr., W. L. Hudson, J. M. McLeod, N. H. Thomas, J. A. Hull.

Wabash Appliance Corp., Brooklyn, N. Y., Booth 351. Incandescent lamps, pure silver reflector lamps for textile lighting, infra-red heat drying lamps. Rep.: T. F. McByrne, N. L. Neuman.

Walker Mfg. Co., Philadelphia, Booth 225. See Greenville Textile Supply Co.

Watson-Williams Mfg. Co., Millbury, Mass., Booths 125–126. Heddles, heddle frames, shuttles, improved shuttle eyes. Rep.: C. A. Dodge, H. E. Goff, H. J. Watson, E. V. Wilson.

S. K. Wellman Co., Washington, D. C., Booth 339. Velvetouch bimetallic friction material. Rep.: W. E. Canfield, J. R. Nurney, A. A. White, Carl Parham, F. L. Cummings, Ray Palmer.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., Booths 417–418–419. Lint-free motors, linestarters, De-ion switches, pushbuttons, varied assortment of lighting and lamps. Rep.: John Gelzer, J. W. Brooks, E. C. Delano, C. B. Steinback.

Wheeler Reflector Co., Boston, Booth 225. See Greenville Textile Supply Co.

Whitin Machine Works, Whitinsville, Mass., Booth 251. Super-Draft roving frame, long-draft spinning frame, Model H comber, automatic bobbin winder, Bi-Coil drawing frame. Rep.: E. K. Swift, W. H. Hoch, R. J. McConnell, W. H. Porcher, R. I. Dalton, M. P. Thomas, B. B. Peacock, I. D. Wingo, M. J. Bentley, M. W. Keeler.

Whitinsville Spinning Ring Co., Whitinsville, Mass., Booth 202. Spinning and twister rings and accessories. Rep.: W. P. Dutemple, H. R. Brock.

Yale & Towne Mfg. Co., Philadelphia, Booth 144. Electric industrial truck of center control high-lift tilting fork type, hydraulic hand-lift truck. Rep.: R. S. Kerr, Carl Moeller, R. N. Davis.